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Subscription Rates—Present special rate of two years for $1.00. Single copy, 10 cents. Special Canadian subscription, one year for $1.00. Foreign subscription, $1.50 for two years. No yearly subscription. Discontinuance—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. Change of Address—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. Remittance—Should be sent by postoffice money order, bank draft, express money order or check. Contributions to Gleanings columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. Advertising Rates—Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. Advertisers' Liability—While the publishers do not guarantee advertisements in this journal, they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.
Entered as second class mail matter at the Postoffice at Medina, O. Published monthly.

The A. I. Root Company, Publishers, Medina, Ohio

Geo. S. Demuth and E. R. Root, Editors; H. H. Root, Assistant Editor; M. J. Deyell, Business Manager.

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3—G4090 Storage Tanks, 80-gallon, honey gate attached, $11.50 each.
7—215 sets of 5 wooden letters for honey sign, nailed only, 80c each.
1—"How to Keep Bees," 75c each.
10—Packed Rims, shallow depth, nailed and painted, $1.50 each.
10—Packed rims, full depth, nailed and painted, $2.00 each.
2—Swarm catchers, old style, without poles, 75c each.
2—254 Veils, of mosquito bar entirely, 25c each.
1500 Plain Comb Honey Cartons for 4x5x1⅜", 50c hundred.
500—Old-style Window Cartons, 4¼x1½", $3.20.
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800—Old-style Small Queen Mailing Cages, 20c for ten, $1.50 per hundred.
40—Long-distance Queen Mailing Cages, 25c for ten, $2.00 per hundred.

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A. I. Root Company of Chicago
224-230 W. Huron St., Chicago, Ill.

1—Set of 5 Wooden Letters for Honey Sign, nailed only, 75c.
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Send order for the following to

O. G. Rawson,
3208 Forest Place, East St. Louis, Ill.

200—4¼x4¼x1½ Corrugated Shipping Cases for 24 sections each, $10.00 per hundred.
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Send order for the following to

A. I. Root Co. of Syracuse,
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1—4-frame Buckeye Extractor, 12" pockets. Equipped for both power and hand operation. Perfect condition. Cost $250.00. Price, $50.00.
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A I. Root Co. of Indianapolis,
121 N. Alabama St., Indianapolis, Ind.

42—Alexander Feeders, 20c each.
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4—K. D., 22532, Plain Section Supers, 4¼x4¼x1½". The lot, $4.00.

Send order for the following to

The A. I. Root Company
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50—Ventilated Escape Boards, no escapes, 40c.
42—Inner Covers, nailed, 8-frame, 20c.
1—Case 50, 4x5x1⅜", 24-lb. Display Comb Honey Cases, $14.00.
3—Old-style Uncapping Cans with baskets, $11.50.
2—140-gallon tanks, outlet on side, $14.50.
1—Centrifugal Strainer, $18.00.
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26—Standard copper smokers, $1.50.
50—Buckeye Hives, $4.50.
9—Regular 10-frame Bottom Boards, 50c.
5—Regular 8-frame metal covers, N. P., 60c.
1—Root Capping Melter, $11.00.

Honey Markets

Information from Producing Areas (first half of October).

California Points: Southern California—Extremely hot weather has been followed by cool and partly cloudy days. It has been very dry, and sage and buckwheat plants are suffering for lack of moisture. With the exception of scattered goldenrod and mustard, there is nothing on which bees can work. A big bloom from eucalyptus is in prospect. Some colonies have consumed winter stores so heavily that beekeepers have found it necessary to feed. The darker honeys, especially alfalfa and buckwheat sage, have moved rather rapidly out of beekeepers' hands and remaining supplies are light. Holdings by beekeepers in the Imperial Valley are also light. Possibly half the orange crop is still held in producers' hands, principally by large producers. Demand for orange is limited, but a moderate demand is reported for darker honeys. Inquiries for honey are primarily for bottlers. Sales by beekeepers, per lb., in ton lots or more, buckwheat-sage, extra light amber, 4-4¼c; few up to 5c; light amber, 3¾-4c; buckwheat, light amber, 4-4¾c; orange, extra white, very few sales, 5½c; white mostly 5-5½c; few 6-6½c; sage, light amber, 4½c; alfalfa, extra light amber Imperial Valley, 4½c; light amber, $4.30-4.65 per case of 120 pounds; mixed flowers, amber mostly 3½c; dark amber, 3c; extra light amber cotton, small pails, 6½c. Beeswax is in moderate demand and steady at 14-16½c delivered Los Angeles, mostly 15-16c per lb; special lot choice yellow, 18½c. Central California—A moderate production of cotton honey and a light crop of alfalfa honey reported in the San Joaquin Valley, with much of the cotton honey ranging from extra light amber to white. Sales reported, coton, extra light amber to white, 4-4¼c; white, 4¼c; light amber, 3½-3¾c; few, 4c; alfalfa-cotton, light amber mostly 3¾c; light amber to extra light amber alfalfa, 3¾-4c; white orange, 5c; amber-buckwheat, 3½c. Beeswax market firm at 13-14c per lb. Northern California—Light showers, with sunshiny weather between, have been beneficial in starting new vegetation. Bees are in fair condition, but very little nectar is now coming in. Demand for honey has been good, and much of the 1933 crop has already been sold, with many beekeepers completely sold out. Sales reported: White thistle, 5-5½c; light amber alfalfa, 4-4½c; white orange, 6c per lb.; small pails light amber thistle, 9-10c; glass jars white thistle, 12-14c per lb. Beeswax, No. 1 yellow, 17c per lb.

Intermountain Region—Demand for honey continues fairly vigorous, especially in carload lots, though holders are showing an increasing tendency to retain their honey in the hope of higher prices. Local sales appear less active than a year ago, due to scarcity of money, and beekeepers often take produce from farmers in exchange for honey. Carlot sales of sweet clover and alfalfa reported, extra white to water white, 4¾-5c; 1 car extra white, 4½c; several cars white, 4½c; 1 car white, 5c; and few distress lots sold lower; ton lots, 4-5c; 60s, 4½-6c; small pails, 5-7½c; few up to 10c. The production of comb honey is much less than that of last year, and it is selling lightly, as it is being held for higher prices. Few sales reported at mostly $1.80-2.25 for fancy and No. 1, few lots higher, and poorer stock lower. Bulk comb, shallow frames, 7c per lb; small pails, 8-8½c per lb.; glass jars, 3c per lb. Beeswax, 12-14c per lb.

Plains Area—Red River Valley of North Dakota and Minnesota—Fully three-quarters of the 1933 crop has been sold and the carlot demand is still reported good. Two cars white extracted reported sold at 5½c per lb.; few small pails, 6½c per lb. South Dakota—Sales of extracted in small pails reported at 6-8c per lb. Iowa—The final crop estimate is lighter than that made earlier, but still is reported best in five years in the western part of the state. The quality of the honey is said to be exceptionally fine. One car white to water white clover reported sold at 5c; 1 car at 4¾c per lb.; ton lots, 4½-5c; 60s, 5-5¾c; small pails, 5-6c. Chunk honey, 10c per lb. Few sales section comb at $2.50-3.00 per case. Kansas, Nebraska and Missouri—More honey is being marketed nearby or within the state than previously. The quality is reported the best in years. More bees are being killed than usual by the large beekeepers. Few sales reported, extracted 60s or more, 5-6c per lb.; light amber alfalfa 60s, 5c; small pails, 7c per lb. Comb honey, $2.25-2.75; few, $3.00 per case.

East Central and North Central States: Michigan, Wisconsin and Minesota—The season is over, with bees generally obtaining sufficient nectar from aster, goldenrod and buckwheat for fall stores. Honey has been selling better than usual, though prices vary widely, depending upon the presence of price-cutters. Buyers are unusually active, however, especially in Michigan and Wisconsin. Sales reported white extracted 1 car, 4¾c; 1 small car, 5c; ton lots, 5-6c; with some holding for 7c; 60s, 5-7c; small pails, 6½-8½c; few, 9-9¼c per lb. Comb honey is scarce and moving at the wide range of $1.92-3.60; few fancy, $4.00 per case. Beeswax, 16c per lb. Illinois—Colonies generally have ample stores for winter and plenty of young bees. Recent fall rains have helped the new growth of sweet clover. Demand is improving. Sales reported, white clover, small pails, 8c per lb.; light amber, small pails, 7½c per lb.; No. 1 white comb, $2.40-3.60 per case. Beeswax, 14-18c per lb. cash, 20c in trade. Ohio and Indiana—An unusually favorable fall has enabled bees to gather much late nectar from goldenrod and aster, and little feeding will be necessary. Many colonies, however, are short on brood and young bees. The condition of the honey plants for next season has been greatly improved by recent rains. The main crop is the shortest in years, and demand is good with prices advancing. Sales reported, white extracted, 1 car, 5.8c per lb.; ton lots, 5.6-6½c; small pails, 8c per lb.; amber, 60s, 6½c per lb. Sales reported of comb honey at $3.11-3.30 per case for No. 1; $2.60 for No. 2.

Northeastern States—New York: In the clover region of the St. Lawrence Valley and Lake Champlain Valley not only was a small clover crop harvested but many large commercial producers who extracted closely are now feeding back granulated sugar heavily for winter stores. Further south in the state goldenrod and aster furnished more abundant nectar for winter needs. Sales reported white extracted large lots, 7½c; light amber clover, large lot, 6c; buckwheat case lots, 5c; 60s, 5½c per lb.; mixed buckwheat and fall flowers, small pails, 8c per lb. Few cases No. 1 white comb, $3.60. Connecticut—A good flow has been gathered from goldenrod and aster, but many colonies will have to be fed. The first hard frost came on October 13. Pennsylvania—Bees are still working on aster and other late flowers. Hives are well filled with honey and have plenty of young bees, as the late honey flow kept the bees working later than usual. Clover looks much better than it did a year ago, as a result of the fall rains. Sales reported, buckwheat, 60s or more, 6c per lb.; small pails, 10c per lb.; dark comb, $3.50-4.00 per case; No. 1 light, $4.00 per case. Northern Vermont—Bees will have to be fed heavily if they are not to starve. In many cases feeding will need to be twice the volume of the honey extracted. New Jersey—Asters and goldenrod are still blooming but are not secreting much nectar. Brood combs are well filled. Some good colonies reported making 60 pounds surplus from the late flow. Sales reported, clover-sumac 60s, 5c per lb.; comb honey, few cases, $4.00 per case.

South Atlantic States: Maryland—The fall flow is about over, though some nectar is still coming in from aster. Bees are in good condition for winter, with plenty of stores. Clovers are in excellent condition for next year. Virginia—Bees are in fair condition, though some

colonies are light in stores. Heavy feeding will be necessary in sections where it was so dry that bees did not get any fall honey. Honey is moving rapidly. Sales reported, section comb, $3.50 per case; extracted, 9c per lb. West Virginia—Nights have been cold and the days windy so that bees have been confined to the hives much of the time, but most colonies have ample stores and plenty of young bees.

Summary—Temperatures have recently been above normal west of plains area, permitting bees to work unusually late on rabbit brush and other fall flowers. Brood-rearing also continued late. East of the plains area the fall flow was irregular but better than anticipated in Ohio and some other sections where early flows were light. Young bees and stores appear fully up to normal in most sections. Demand for honey is active and large lot sales to bottlers, candy-makers and large wholesalers have recently been numerous. The market on carlots is above last year's level—in some cases 25 per cent—but many beekeepers are holding in anticipation of still higher prices later. The premium for comb honey is even greater than for extracted in comparison with last season's quotations, and stocks of comb honey are rapidly becoming lighter. The quality of this year's honey is generally superior to that of a year ago and a larger proportion will grade white to water white.

Monthly Report of Honey Producers

Early in October we sent the following questions to honey producers: 1. What per cent of the honey produced in your locality has already left the hands of the producers? 2. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1 per case? 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid. 6. What is the condition of the colonies for winter in your locality compared with normal, considering the number and age of bees and the supply of stores. Give answer in per cent. 7. How does the number of colonies to be wintered in your locality compare with that of last year? Give answer in per cent. 8. What is the present condition of honey plants in your locality as compared with the average? Give answer in per cent. The answers received are tabulated as follows:

State. Name.	Pct. sold.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	Retail prices. Ex.	Retail prices. Comb.	Move-ment.	Cond. colo.	Pct. Cond. hon. wint.	Pct. Cond. plants.
Ala. (H. C. Short)	..	..	..	..	..	$.55	..	Fair	100	100	100
Ala. (J. M. Cutts)	..	..	..	.45	..	.55	..	Fair	100	95	90
Ala. (J. C. Dickman)	..	..	..	.30	..	.40	..	Slow	80	100	80
B. C. (A. W. Finlay)	40	.10½	..	.75	..	.90	..	Fair	100	100	100
Calif. (L. L. Andrews)	35	.05¾	..	..	..	.62½	.17	Fair	90	85	70
Colo. (O. E. Adcock)	10	.05	2.25	.37½	2.75	.45	.12	Fair	100	75	100
Colo. (J. A. Green)	10	..	..	.30	2.00	.43	.12	Fair	100	80	100
Conn. (Allen Latham)	10	..	..	.80	4.75	1.00	.27	Fair	75	100	100
Conn. (A. W. Yates)	10	.07	3.00	.70	5.00	1.00	.30	Slow	75	100	100
Fla. (C. C. Cook)	..	.04	..	.30	..	.40	..	Slow	100	100	100
Fla. (H. Hewitt)	50	..	..	.40	..	.55	..	Fair	100	90	100
Ga. (J. J. Wilder)	30	.04½	..	.35	..	.45	..	Fair	100	15	100
Ida. (Ryon R. Isbell)	40	.05	2.40	.35	3.00	.42	.15	Slow	100	90	85
Ill. (A. L. Kildow)	0	.04½	2.00	..	..	.50	..	Slow	100	110	25
Ind. (Jay Smith)	50	..	..	.50	3.00	.65	.15	Fair	125	80	125
Ind. (T. C. Johnson)	100	..	..	.60	3.60	.75	.20	Slow	100	100	100
Ind. (E. S. Miller)	5	..	..	.45	3.00	.60	.15	Slow	100	100	90
Iowa. (E. G. Brown)	65	.05	..	.40	..	.60	.15	Fair	110	95	90
Iowa. (Frank Coverdale)	5	.05	..	.35	2.40	.45	.12	Fair	100	100	100
La. (E. C. Davis)	40	.05	..	.35	..	.50	..	Fair	100	100	100
Md. (S. G. Crocker. Jr.)	10	..	..	.60	4.00	.75	.25	Slow	100	80	100
Mich. (I. D. Bartlett)	20	.06	3.00	.45	..	.55	..	Fair	75	90	100
Mich. (F. Markham)	25	.06	..	.38	2.70	.55	.15	Fair	90	100	75
Mich. (E. D. Townsend)	60	.06	..	..	..	..	..	Rapid	100	90	100
Minn. (F. W. Ray)	20	.05½	..	.37½	..	.45	..	Fair	100	100	100
Minn. (B. L. Morehouse)	10	.06	..	.45	..	.60	..	Fair	95	95	50
Nebr. (J. H. Wagner)	10	..	..	.50	2.40	.60	.12	Slow	90	150	90
Nev. (Mrs. E. G. Norton)	0	..	..	.29	..	.45	..	Slow	90	80	..
Nev. (G. G. Schweis)	..	.05	2.00	.35	2.50	.50	.13	Rapid	100	100	50
N. Y. (Geo. B. Howe)	..	..	..	..	..	.55	.19	Fair	88	..	75
N. Y. (F. W. Lesser)	..	.07	3.00	.46	3.60	.60	.20	Fair	100	100	90
N. C. (C. S. Baumgarner)	..	..	..	..	..	..	.20	Slow	100	..	..
N. C. (W. J. Martin)	20	.04	..	.50	..	.75	.20	Slow	100	100	100
N. C. (C. L. Sams)	50	.06	2.00	.40	2.50	.66	.20	Fair	95	100	100
N. D. (Chas. Engle)	75	.05¼	..	.40	3.00	.50	.15	Fair	75	100	50
Ohio. (R. D. Hiatt)	25	..	..	.57	4.25	.75	.22	Fair	90	100	100
Ohio. (J. F. Moore)	100	..	..	.45	3.50	.60	.17	Fair	70	80	90
Okla. (C. F. Stiles)	60	..	..	.50	..	.60	.16	Fair	85	85	80
Pa. (H. Beaver)	2	..	..	.50	3.00	.60	.16	Fair	100	100	100
Pa. (D. C. Gilham)	5	..	..	.75	4.50	1.00	.27	Slow	90	100	100
Pa. (H. B. Kirk)	..	..	..	.60	4.00	.95	.22	Slow	100	..	..
S. D. (L. A. Syverud)	25	..	..	.40	3.00	.55	.16	Fair	75	90	50
Tenn. (J. M. Buchanan)	50	..	..	..	..	.75	.20	Slow	100	95	75
Texas. (T. A. Bowden)	90	..	..	.45	..	.55	..	Fair	60	90	75
Texas. (J. N. Mayes)	90	..	..	.27½	..	.40	..	Fair	100	85	60
Texas. (H. B. Parks)	50	.04	..	.35	..	.40	..	Fair	100	100	100
Utah. (M. A. Gill)	50	.04½	2.50	.27½	2.50	.32½	.15	Fair	90	100	80
Vt. (Phillip Crane)	25	..	3.75	..	4.20	..	.25	Fair	90	95	50
Va. (T. C. Asher)	33⅓	..	..	.50	3.00	.70	.18	Fair	90	100	90
Wash. (W. L. Cox)	10	.05⅞	..	..	..	.59	..	Good	100	85	100
Wash. (G. W. B. Saxton)	25	..	..	..	4.50	.45	..	Fair	100	75	80
Wis. (N. E. France)	75	..	..	.45	2.00	.55	.12	Fair	100	..	50

To New York State Beekeepers

HONEY CONTAINERS

A WORD TO THE WISE

You should anticipate your requirements on honey containers as early as possible. Prices are almost sure to advance as the price of all raw materials has been increased.

We now have a good stock of cans, pails, and jars, and our prices will remain the same as long as this stock lasts. After it is gone, we don't know what prices will be.

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Send for price list.

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With a lot better service than ever before, and

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The Stover Apiaries, Tibbee Station, Miss.

Good Queens

During the past two seasons we have been trying out some queens of imported stock, the breeding queens having been secured from a commercial honey producer and queen breeder in Northern Italy.

We have sold quite a number of daughters of these imported queens and we are receiving some very favorable comments from satisfied customers. The queens are decidedly dark or leather-colored and their progenies are dark but they are three-banded Italians, gentle, easy to handle and excellent workers.

If you would like to try some queens of imported stock next season drop us a line so we may know how to plan on queen production for the coming year.

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Medina, Ohio

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Gleanings in Bee Culture
NOVEMBER, 1933

Bee Stings for Rheumatism

For years bee stings have been used as a remedy for arthritis and rheumatism, but largely without sufficient scientific proof of their efficiency. Now comes Dr. Bodog F. Beck, 205 West 57th Street, New York, N. Y., with a request that beekeepers help him in his investigation of this interesting and important subject. On page 673 in this issue, he gives a list of questions he would like to have beekeepers answer. If a large number of answers are sent in, Dr. Beck will have some important data that may lead to establishing the bee-sting remedy as a standard for certain types of rheumatism and arthritis. We hope that our readers will respond generously to Dr. Beck's request.

Providing Abundance by Creating Scarcity

While extremely anxious to be loyal to his country in every possible way, the Editor is too old-fashioned to be able to think in terms of attempting to bring abundance to the people of a great nation by creating scarcity. The idea of making fertilizer out of little pigs, hoping thereby to raise the price of pork, feeding the cows less to raise the price of milk, or destroying some of our farm crops when many are in want, is too new in modern economics for many of us to swallow whole. It has even been suggested that the government should buy a portion of the honey crop and destroy it with the remote hope that this would raise the price of the rest of the crop. Certainly honey prices should be higher, but we can not believe that many beekeepers want to see such a wonderful food as honey destroyed when some of their neighbors may be hungry. They would rather give it to needy neighbors.

Sweet Clover for Unused Land

Now that the government is proposing to rent some of the corn land and take it out of production in addition to portions of wheat land, surely some way should be provided for farmers to obtain permission to put the idle land in sweet clover. This would not only preserve and add to the fertility of the soil, but would also provide much needed pasture for the bees. Of course, the government may object to such a program since it would help provide a marketable crop in the form of honey and would increase the productivity of the land for later crops, but to permit good corn land and wheat land—the very best for clover—to grow up with ragweeds seems most absurd.

Fall Honey as Winter Stores

In many localities, the bees have stored an unusual amount of fall honey, thus nicely solving the problem of winter stores so far as quantity is concerned. However, many are worrying about the quality of this late-gathered honey and its probable effect upon the bees during winter. The past few winters have been so mild, especially in the eastern portion of the country, that bees have been able in many localities to winter well on stores of poor quality. Many cleansing flights during the winter enabled them to do this.

Another factor in good wintering in recent years is in the fact that colonies now average stronger than formerly. The movement to extracted honey production is one factor in this, and better management is another. These stronger colonies somehow manage to get along fairly well on stores of inferior quality even though the bees are confined to their hives for a long period during the winter. If the winter should be severe with the bees confined to their hives without cleansing flights for two months or more, there would no doubt be considerable winter loss in some localities.

If one could know for certain what the character of the winter will be, it might be advisable to feed each colony at least 10 pounds of sugar syrup now in order to insure good quality of winter stores, but most beekeepers will no doubt take their chances in regard to the character of the winter, and restock their hives with package bees if winter loss is severe.

Wintering in Dry Climates

There are many points of difference in wintering bees under the great variety of climatic conditions in this country. In much of the eastern portion of the country where relative humidity is usually higher and the daily fluctuation in temperature less than in the arid and semi-arid regions of the West, the majority of beekeepers apparently prefer to provide a generous amount of packing for the hives and prepare the bees for winter without provision for upward ventilation. In portions of the West and Northwest where the atmosphere is drier, preparing bees for winter in this way often results in the interior of the hives becoming exceedingly wet and moldy, paradoxical though it may seem.

The explanation is, in part at least, in the greater daily range of temperatures which chills the interior of the hive below the dewpoint during the night and causes the bees to become more active in order to keep warm. Both of these factors tend to increase the condensation of moisture within the hive, even though to an eastern beekeeper the amount of packing would appear to be adequate to prevent such condensation. This has led many western beekeepers to provide upward ventilation, even though a considerable amount of heat may be lost by doing so.

The greater amount of sunshine in semi-arid and arid regions also makes quite a difference in the wintering problem. Since the hives are usually warmed by the sun nearly every day during the winter in some western localities, thinner packing is usually used, and often no additional protection is given to single-walled hives. This makes upward ventilation necessary if the interior of the hives are to be kept dry. The successful wintering of bees in portions of the West in single-walled hives often arranged with a piece of burlap substituted for the inner cover, is usually a surprise to eastern beekeepers who would expect disastrous results with such a winter arrangement in the East.

In wintering in the cellars in the Northwest bees often become restless during the winter on account of the exceedingly dry atmosphere within the cellar, making it necessary to provide a lower temperature or sprinkle the floor of the cellar frequently with water in order to keep the bees quiet. This is quite a contrast with the usual bee-cellar condition in the East.

Wintering Instead of Killing Colonies

According to reports from beekeepers, the publication in some of the bee journals of the prices suggested by shippers of package bees and queens in their tentative code, saved the lives of thousands of colonies of bees in the North which otherwise would have been killed with the expectation of restocking the hives with package bees next spring. Many beekeepers evidently thought that the published prices were established instead of only suggestive. In localities where the drouth was so severe that the bees were not able to store enough honey for winter, many beekeepers contemplated killing their colonies instead of buying sugar to supply winter stores, but have now changed their minds and decided to feed. Many others in the far North where the bees were well provisioned for winter had expected to kill their bees instead of trying to winter them, but have now changed their plans and decided to winter.

Keen competition among package and queen producers in the South, together with the low purchasing power of northern beekeepers resulted in lower prices of packages last season than ever before. The package people rightly point out that the prices were entirely too low to permit a profit, and they are hoping to correct this for the coming season.

This movement toward wintering colonies instead of killing them is an illustration of how difficult it is to establish prices which will permit a profit under present conditions. The uncertainty in the value of our money on account of the possibility of devaluation (which should result in higher prices on account of the then cheaper dollar) and the present low purchasing power of beekeepers and the uncertainty in the business outlook for the immediate future (which may compel lower prices) make it extremely difficult at this time to establish prices that are fair to both producer and consumer.

National Honey Week

No doubt honey will be brought to the attention of more people during the week of November 13 to 18 than during any previous National Honey Week. Each year the movement gains some momentum which gives it an advantage the following year. An increasing number of business firms are willing to help by mentioning honey in their own advertising during

National Honey Week; various trade journals now recognize that honey is a commodity of considerable importance, and show a tendency to co-operate; Mrs. Jensen and Miss Taylor of the American Honey Institute have learned much through several years of experience which enables them to build better each year; and beekeepers are slowly but surely learning that they, too, have an important part to play in the project.

The Institute has arranged for a number of radio broadcasts featuring honey. A schedule of some of these is given in this issue by Mrs. Jensen on page 691. Beekeepers can help to increase the radio audience by notices in their local papers and other methods.

The Kellogg Company is prepared to supply beekeepers with free window cards and honey recipe booklets featuring National Honey Week. Requests for these should be sent direct to the company at Battle Creek, Michigan. The Great Atlantic & Pacific Tea Co. will include honey in their menus and recipes distributed by the A. & P. stores during that week. The circulation of this menu is over one-half million, and their advertisements in approximately 1800 newspapers will bring honey to the attention of housewives during the week. General Mills, Inc., will feature hot biscuits with honey, and Betty Crocker hopes to be able to mention honey during one or two of her broadcasting periods of that week. The American Honey Institute has lined up trade publications, utility companies, and dining-car services on several railroads which promise to co-operate in featuring honey during the week.

This is all very fine, but on top of it all should be a mighty effort on the part of beekeepers throughout the entire country to help bring about the greatest honey publicity campaign ever put on in the United States. Many beekeepers who have had a failure in their honey crops this season will be inclined to think that they can do nothing to promote honey since they have none to sell. However, they can purchase honey from others and put on a honey-selling campaign that would benefit not only the honey industry in general but the aggressive beekeeper who does this in particular. There are enough beekeepers in this great country to bring honey to the attention of practically every housewife within its borders if they have the will to do so.

A Tentative Honey Producers' Code

Some time ago, in response to repeated demands for action of some sort, James Gwin, President of the American Honey Producers' League, issued a call to the presidents and secretaries of the various state beekeepers' associations and all others interested to meet in Chicago on October 13 and 14 to consider ways and means of forming a tentative marketing agreement of fair practices for honey producers and packers.

At first the plan, involving nearly 800,000 beekeepers, seemed fantastic and premature, if not impossible, since other and similar food codes or agreements were in a jam at Washington with little prospect of immediate action. In spite of this feeling which was general, honey producers and representatives of the various state societies were present from a large part of the great West, including California, the Rocky Mountain region, North and South Dakota, Minnesota, Wisconsin, Iowa, Missouri, Michigan, Illinois, Ohio and New York. The extreme South, especially the southeastern part of the country, and New England were not represented. However, the states shipping out most of the carloads of honey were very much in evidence.

In his opening address President Gwin was careful to state that this was not a meeting of the American Honey Producers' League, but of honey producers and others interested in a code of fair prices and practices in the selling of honey under the Agricultural Adjustment Act. President Gwin and Secretary Milum of the League were elected president and secretary, respectively, by acclamation. Mr. Gwin then in a carefully-prepared written address made it clear that the procedure would have to be under the AAA and not under NRA, that it was going to take money and a lot of it to push through a code such as was under contemplation. He reminded his hearers that there were approximately 800,000 beekeepers in the United States, some large and some small, in widely-separated and diversified districts; that in order to make the marketing agreement acceptable there would have to be 65 per cent of production represented. Could we get that percentage, and could we present an agreement that would cover the regional differences?

He then put up the proposition point blank that it was up to those present to

(Continued on page 698.)

An Ideal Extracting Outfit

E. R. Root

How Much Does Is Cost to Produce a Pound of Honey? The Story of a Beekeeping Genius.

How much does it cost to produce a bushel of wheat or a bale of cotton? How much does it cost to produce a pound of honey? The answer to these questions will depend on the locality, the season, the size of the crop, the man, and the equipment. We will not concern ourselves with the cost of producing wheat or cotton, but it

Fig. 1.—A four-wheeled trailer made of parts of old automobiles.

is pertinent in a bee journal to ask how we can reduce costs in producing honey. We may not be able to control the locality on account of finances or family. Certainly, we can't control the season which has much to do with the size of the crop, but we can reduce the hours of labor by planning and by the use of the proper equipment.

If there is any man who has given the proposition careful consideration, it is Ray C. Hiltner, of Continental, Ohio. He thought and thought, and as he was a natural mechanic, he finally put his ideas into practical form. Now he has an investment that will last for many years to come and at the same time cut his costs each year to a minimum of labor, and that largely his own. I had heard about him and his equipment and have been asked why I did not call on the man and see what he had. I finally did.

Builds Much of His Own Extracting Equipment

The accompanying pictures will give almost at a glance how well he worked out his problem. When it is known that he did the work of planning, steam fitting, and carpenter work almost entirely with his own hands, it becomes the more remarkable. His pipe work would do credit to a professional steam fitter. I asked him how he did this and he answered, "Oh, I used to help Dad. I have watched others cut and fit pipes."

His arrangement of wax melter, boiler, uncapping machine, settling tanks in the room next to the extractor and his knowledge of hot water and of steam, would do credit to an engineer. He even went so far as to put one steam pipe inside of another, the one to hold the honey and the other the hot water from the boiler.

Fig. 2.—The loading platform is on a level with the floor of the extracting room, also on same level with floor of truck or trailer. Note the platform on castors for sliding piles of supers from truck to extractor.

I said, "How did you do it and yet have the job leak proof? You would have a bad mess if you had the water leak into the honey." His simple answer was, "By electric welding."

"How did you make that turn-table or merry-go-round to hold the uncapped combs?" "By electric welding," was again the answer.

"Where did you get the welder?" "Went to a shop where there was one."

"Where did you get your plan for the whole outfit—melter, boiler, piping, uncapping machine, turn-table, extractor, and settling tanks?" Again his laconic answer, "I read all I could find on the subject in all the books and journals and then I made up a plan of my own."

"What did you do when the pipe wrench slipped and skinned your knuckles?" Again the reply, "It didn't slip."

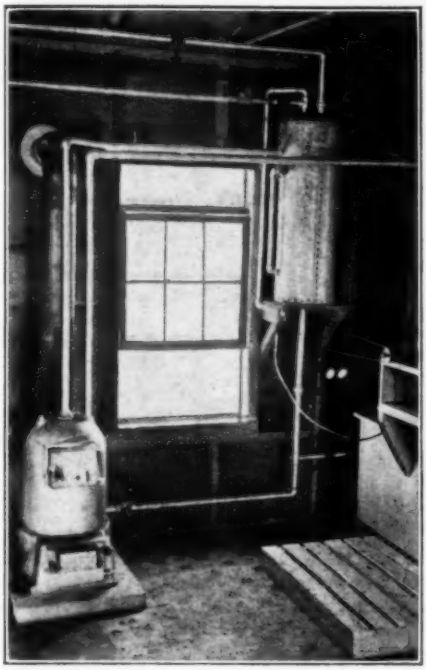


Fig. 3.—The little boiler supplies both hot water for the cappings melter and steam for the uncapper. The tank at the right acts as a steam dome for the boiler.

You see he is the kind of a chap who calculates, thinks first, and then applies those big brawny muscles. Brains plus muscle is what counts these days.

"Where did you get that trailer to haul honey?" Again the answer, "Made it."

"Why four wheels instead of two?" "Less liable to tip over and it will carry more. Four wheels are easier on the combs than two."

Crop Is Handled Without Heavy Lifting

You will note that the platform of the truck is the same height as the loading floor, or shelf, of his extracting room. (Fig. 1.) Note that he has small platform trucks with large castors that will roll over the floor. The honey from the truck is slid from the truck or trailer to one of these little rolling platforms where it can be shoved over to the uncapper without lifting. See Fig. 2 on the loading shelf.

Mr. Hiltner is a big, stout, and brawny man. He could lift, but he saves himself by using his head. He slides the supers where he wants them on one of the little floor trucks.

So far I have given a brief description of the whole thing. It is one of the best labor-saving outfits I have ever seen. Let us now examine it in detail.

Note the loading platform as shown in Fig. 2. At one end, at the foot of the stairs and out of sight, is a gas engine belted to an overhead shaft that goes through the partition into the extracting room. This shaft is belted to a buzz saw upstairs and then in the next room to the uncapping machine and to the big 45-comb

Fig. 4.—The honey tanks are mounted on a bench in an adjacent room and so arranged that the pump will deliver honey to any one tank or to all of them at the same time, as the operator wishes.

radial extractor. This one engine serves a triple duty.

Just left of the little boiler is a double boiler for melting the cappings after they have been dried of honey in the big 45-comb extractor. This melter draws its heat from the little boiler, not from steam, but from hot water that is on the same line so that the water will circulate.

Boiler Supplies Both Steam and Hot Water

The boiler is a very small one that he purchased from a mail order house. The fuel is fine hard coal, that will hold fire and give him all the heat he needs for operating the melter, the uncapper, and for warming the honey through the aforesaid double pipe.

The piping is so arranged as to connect with a tank overhead that acts as a steam dome with a water gauge. Thus Mr. Hiltner can have steam or hot water from the same boiler. The steam pipes extend from the top of the tank. The honey pipes from the honey pump connect with the settling tanks in the third room, just next to the big extractor. (Fig. 4.) By an arrangement of valves Mr. Hiltner can pump the honey from the extractor to any one of the tanks or to all of them at the same time.

Improved Turntable for Uncapped Combs

By referring to Fig. 5 the reader will

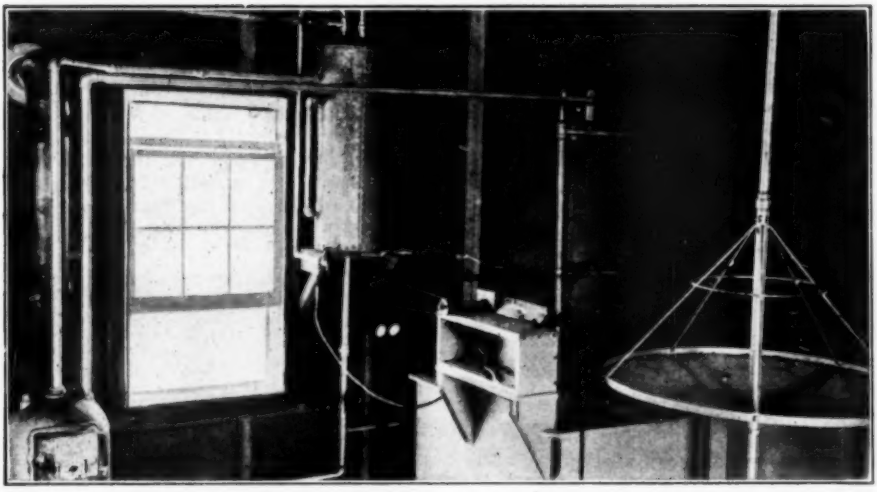


Fig. 5.—A turntable with inverted cone bottom is mounted between the uncapper and the extractor to receive the combs as the operator uncaps them while the extractor is whirling the previous batch.

see a turntable at an advantageous point between the uncapper and the big 45-comb extractor. This is to hold combs as they come from the power uncapper preparatory to going into the extractor. See also Fig. 6, where the turntable is filled with combs ready to go into the big 45-comb machine at the right. As the turntable revolves an empty space is always available for another comb just uncapped. The central shaft, or spindle, is hollow and the drip from the combs runs down the inverted cone through the hollow spindle into a hollow socket, which in turn delivers the honey to a pipe that carries it to the honey pump.

This arrangement is similar to the turntable used by O. H. Schmidt, shown and described on page 541 of the September issue of this magazine. I think Mr. Hiltner said he copied Mr. Schmidt's idea. He has improved it by making an inverted cone to receive the honey drip and then providing a means for this drip to reach the honey pump through the hollow spindle.

Mr. Hiltner says this turn-table enables him to hold the combs as fast as they are uncapped until he has enough to fill the extractor, with never a drop of honey on the floor. Thus by standing in one spot he can load his 45-comb extractor.

The criticism has been made that a turntable like this costs almost as much as a duplicate 45-comb extractor. In the case of two extractors, the uncapping machine is placed midway between the two. This avoids handling the combs a second time.

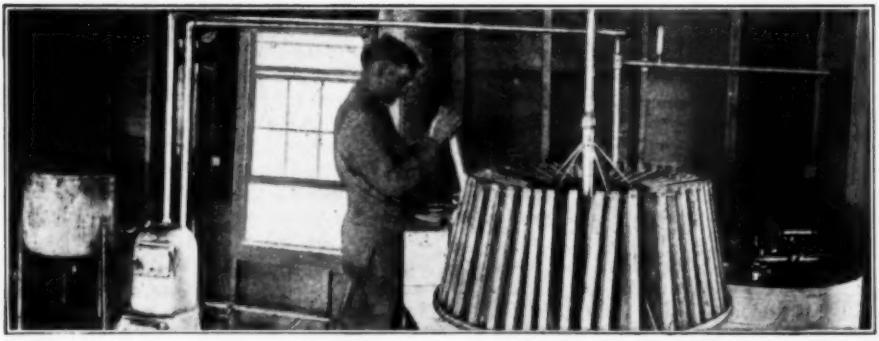


Fig. 6.—The operator has just finished uncapping enough combs to fill the turntable which also just fills the extractor. The drip from the combs on the turntable drains into the hollow shaft at the center, thence to the honey pump.

Fig. 7.—General view of Mr. Hiltner's honey house. The load of filled supers is driven into the building through the large door when the floor of the truck is on the level of the loading platform. The extracting room is at the right.

While one machine is extracting the honey, the other one is receiving the combs as fast as they come from the uncapper. In this way the uncapped combs go direct to the extractor, not by way of the turntable. When the first set is extracted the other machine now full of combs is started up and spins while the other one is being emptied and refilled with combs direct from the uncapper. By that time the other machine has completed its work when the process is repeated. Nearly every one is familiar with the 45-comb radial extractor and the uncapping machine and it is not necessary to describe them here.

Improved Method of Drying Cappings

Mr. Hiltner dries his cappings after they accumulate by whirling them in the extractor. Instead of covering up the bottom of the reel to hold the cappings, he uses large three-cornered pockets which

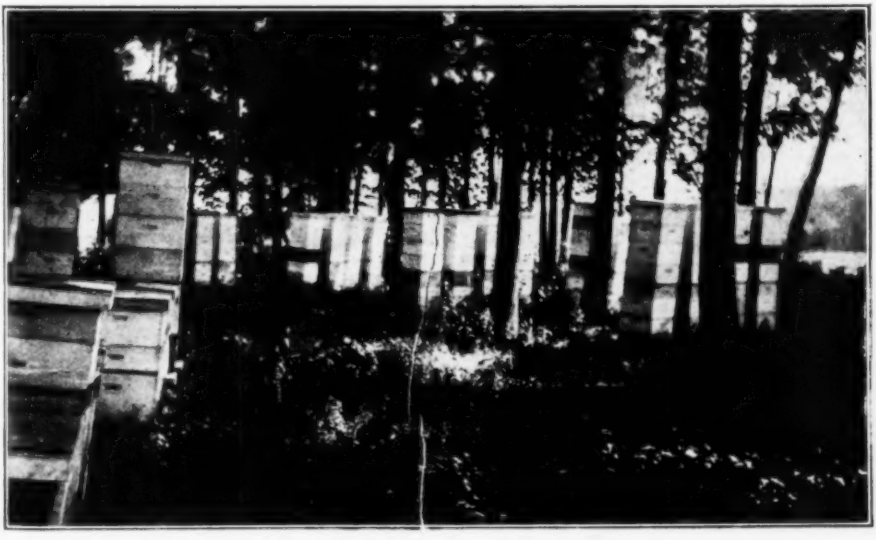


Fig. 8.—One of Mr. Hiltner's apiaries located where both alsike clover and sweet clover are abundant.

exactly fit in between the supporting arms of the big extractor. The pockets, one by one, are placed directly under the uncapper. When the set of five is filled with cappings, they are put into the extractor. Here the honey is separated from the cappings by centrifugal force. The pockets are then lifted out of the machine with the cappings practically dried of their honey. They are then dumped into the wax melter previously mentioned and melted immediately. The hot wax is drawn off and poured into greased receptacles. On cooling they are ready for market.

In Fig. 7 we have a general view of his new extracting shop, within convenient distance of the freight depot at Continental. Mr. Hiltner can wheel over a couple of cases of honey for shipment or a whole truck load.

Figs. 8 and 9 show a couple of Mr. Hiltner's bee yards. One of them is located within range of 75 acres of alsike. This year the season was so dry that the crop from that source was very light. Besides the alsike and white clover, there are large fields of sweet clover and alfalfa, and in a normal year this is good bee country.

It is only fair to say that this whole region of the state from Delphos and Van Wert to Defiance, is well covered with bees. There is no chance for an outsider to get in without seriously crowding the beekeepers already there. They overlap as it is, and those who are there have to work hard for what they get. The drouth the past season hit them hard. I saw the ground in numerous places was so dry that great cracks showed here and there so deep that a yardstick would all but drop out of sight.

Medina, Ohio.

Fig. 9.—Mr. Hiltner in one of his apiaries.

Facts and Fallacies About Bees

Allen Latham

Some Errors That Are Still Handed Down from Generation to Generation

From time immemorial false statements have been made about bees. Even after Huber, the blind apiarist, discovered many then unknown facts about bees, solved mysteries, and laid low numerous wrong ideas, there were those who rose against him. The most flagrant instance was that of Huish, an English beekeeper. Huish literally made a laughing stock of himself in his efforts to belittle the findings of Huber. Huish's book on bees is highly entertaining, and not the least reason is the outstanding pigheadedness of the man.

It would seem that by this time, after so much truth has been taught about bees, there should be few or no false notions still held. Yet there are many and they are not all held by ignorant and unread beekeepers. I shall spend no time on the king-bee idea, nor the various phantasies held by the non-beekeeper. I shall hold to view some of the false ideas held by many beekeepers who pride themselves that they know the facts.

"Bees fly in a straight line." So far as I have ever observed bees in flight, they never fly in a straight line except when headed for the tip of one's nose. The flight of the bee is constantly curving. I doubt if the flight would be straight even on a day without a breath of wind. Nor do bees take the shortest path to and from their field of work. When in rapid flight, the path approaches closely to a straight

line, but it is almost invariably weaving from side to side or constantly changing in its altitude.

Exceptions to the Rule in Stinging

"Queen bees never sting other than their own kind." Having been stung by a queen on more than one occasion, I know this to be false. I have also several times seen a queen sting a worker bee to death. The last time I was stung by a queen the case was rather interesting. I was killing the virgins in a colony which had lost the old clipped queen and was ready to send out a swarm with a young queen. As each virgin was found I pinched her and threw her to the ground. All at once I felt a sharp sting within the upper part of my shoe. Every beekeeper has had bees crawl up his shoe and hence getting into the shoe and getting pinched there resulting in a sting above the ankle. On this occasion the pain was rather sharp and I stooped quickly to pull my stocking to dislodge the sting. The culprit was a virgin queen. In fact, all stings I ever received from queen bees were from virgins.

"A bee always loses its sting when it stings a human being, and can sting but once." Having been stung three times in succession by a worker bee I know that the statement just made has its exceptions. As one can readily see, a person working in his shirt sleeves will have parts of those sleeves coming into contact with the skin and then coming free as the arms are moved. While stooping over a hive I felt a sharp sting just above the elbow on the back of my arm. I stood up and at once the sting was eased. Thinking the matter closed, I again stooped to my work and once more the sting was felt. I stood up the second time and the sting ceased its action. A third time I stooped over and a third time the sting got in its work. This time when I stood up I grasped my shirt sleeves and pulled it into view. There was a worker bee humped up and stinging vigorously. Of course, I immediately smashed that bee. I should have kept stooping and rising to see how many times that bee could give a painful sting. It is at once evident to my readers that the cloth served to pull the sting from the skin each time I stood so that the shirt sleeve fell away from the back of my arm.

"Queenless bees never build worker comb." Though I freely acknowledge that generally most if not all new comb built by queenless bees is drone comb, I have had many exceptions in the case of my cell-building colonies. I rear all my queens in queenless colonies. Frequently a fairly large piece of good worker comb is built while the cells are in process of development.

The Killing of the Drones

"In the fall the workers sting the drones." This misstatement is not now so prevalent as it once was. I have never observed a case of a drone's being stung to death by a worker bee but I hesitate to say it never happens. I do know that bees bite and worry drones and do keep them from the honey so that being unfed they soon starve to death.

"The old queen leads out the first swarm." I venture to say that a queen never leads out a swarm. Usually a third of the swarm is out of the hive before the queen appears, and not infrequently the queen is among the very last to leave the hive.

"The queen leads the swarm to its new home." This is a statement often found in books written for children. How too frequently are false statements made to children. A very unnecessary evil.

"Supersedure queens are the best of all queens." After long observation on this matter, my own findings are that most supersedure queens are very poor, not one in a dozen worth keeping. Most of them are themselves quickly superseded.

"The queens in natural swarms are high class queens." Again my findings contradict this. I venture to state that not one natural swarm cell in ten produces a queen of marked excellence. Actual observation of the doings of such queens has led to this belief. Added to this is the fact that the vast majority of natural swarms are short-lived, few proving equal to making a good living and surviving more than a year. To be sure, the cause may not of necessity be the poor quality of the queens in these swarms, but I am inclined to think it is frequently the cause. There is a very logical explanation for the fact that supersedure queens and natural swarm queens on the average are poorer in quality than queens reared artificially by a careful queen-breeder, but space does not allow me to enlarge upon this matter here.

Drone Eggs from Young Queens

"Young queens lay few drone eggs, but old queens are prone to lay much in drone comb." Again my experience belies this

statement. The worst of all drone-laying is done by a young queen when weary from heavy duty. The largest amounts of sealed drone brood I ever saw in hives were in some headed by queens under six weeks of age. On the other hand I have had queens which in their third year refused to lay in drone comb at all. In my own opinion the laying of drone eggs by a queen is not governed at all by her age, save in the case of a failing queen. Two factors govern it, one the natural urge to produce males which leads to the polishing up of drone comb for the use by the queen, and the second the fact that a queen may have wearied her powers of egg-fertilizing. After an orgy of worker-egg laying, any queen is ready to fill large amounts of drone comb. Old, but still good queens, not being subject to orgies of egg-laying are less prone to lay in drone comb than are much younger queens. Believe it or not.

"Never work on bees while you are sweaty. Bees resent unpleasant odors." If I never worked on bees while sweaty I would get little done. Working over a hive in the hot sun is about as sweaty work as I have ever done. On cold days when I am not sweaty I get more stings than I do on the sweaty days. I have seen beekeepers of filthy habits work about bees with no protection. The bees did not seem to mind them, although I sought a position to the windward. So I am skeptical about this matter.

"Drones can not feed themselves." This statement appears in one of the best bee movies I have ever seen, one from the West. I have many times seen drone bees taking honey from open cells. Is seeing believing?

"The first after-swarm leaves the hive as soon as the first virgin emerges." My own observations teach me that the first virgin is usually about three days old before she goes out with a swarm. It is not till two or more other virgins are mature enough to leave their cells and there has been much piping back and forth that finally the first afterswarm emerges.

Norwichtown, Connecticut.

The Deep-Frame Hive

Geo. Harrison, Jr.

Some Local Conditions Which May Influence Choice of Particular Type of Hive

It is a bold man, indeed, who would get into a discussion with Dr. Phillips. But there always have been those who "rush in where angels fear to tread," and there is no reason to believe that there will not always be such. In this discussion, however, it must be born in mind that Dr. Phillips is speaking of general conditions and of a universal hive whereas I am speaking of conditions as found here and practices which seem to suit me best.

Most of my hives are two-story 10-frame, some are 8-frame and 20 are Modified-Dadant. It was with a great deal of reluctance, and after considerable correspondence and not a little argument that I purchased these hives. Before purchasing them, I was of the opinion that the bees would not store enough honey below for their needs during the winter and that feeding would have to be resorted to. I have found, during the four years that I have been using them, that my fears were well founded. I am speaking, of course, of extracted honey production. In 1930 it was necessary to feed immediately after removing the supers. This was the year of the great drouth and I suppose it could not very well be charged against them.

Favors Deep Frames in Swarm Control

On page 534, September, 1933, issue of Gleanings in Bee Culture, Dr. Phillips says: "It is the skill of the beekeeper more than the hive that brings success, but we also know that the most efficient hive is the one demanding the least labor in operation." This last part of the quotation was what led me to try the Modified-Dadant hive. Some years ago I stopped shaking bees off their combs on foundation or empty combs and placing the brood above. If the queen insists in laying in queen cells, I now pinch her and supply the bees with another or let them rear one of their own. There are several reasons for this. One is that the queen often went bad afterwards and another

is that I usually did not have the foundation or suitable combs for the operation. Also, it seemed to me, that it retarded their work more than getting rid of the queen and resulted in less surplus. There is another important reason for not wanting the dark combs above. This is in the tulip tree region and the tulip honey can not be sorted out when it is in dark combs.

I am not one of those robust persons who glories in how much he can lift and how often he can do it. The constant lifting off and on of a heavy full-depth food-chamber and lifting supers that much higher often becomes quite a burden. Not to have to look through two stories to find the queen to put her below lessens labor of operation, and the investment is less. Dr. Phillips says that the two-story hive is fool proof, but my observation is that those who need a fool-proof hive do not use two-story hives but single-story ones. Therefore it would seem to me that that argument hardly holds.

Shallow Supers for Separating Honey from Different Sources

As to having different sized frames in the supers, I have found it necessary to use shallow supers, at least for the first half of the season, because of the tulip mentioned above. The use of deep supers throws too much honey into the tulip tank. If I sold on the open market honey containing 10 per cent of tulip, it might just as well be all tulip. With shallow frames, less white honey goes in with the tulip. The honey from a colony producing only 50 pounds in one or two deep supers will often all have to go into the tulip tank. If in shallow supers, it can often be separated to some extent.

More Brood in Spring

To quote Dr. Phillips further: "Beekeepers who use the deep frames usually think that surely there is enough room for stores, whereas the hive is too small for both stores and brood in spring, to get the best results." Strange as it may seem and for some reason which I am unable to explain, the colonies in the Modified Dadant hives, on the average, have been superior to those in two-story 10-frame hives in the spring. No amount of stores or room seems to bring the brood in the 10-frame hive up to the average in the Modified-Dadant hive. Don't ask me the reason; I can't see any. I just know it has been a fact during the three springs I have had them under my observation side by side. It may just have happened, and over a period of 10 years I may not find it true. Again, I might find the reason and bring the 10-frame up to those in the Modified-Dadant hives.

At the time of this writing I believe I can handle the one-story deep-frame hives with greater dispatch, with less labor, and with less investment than the two-story hives. The surplus this year, as last, is on the average greater but it remains to be seen after I do my feeding whether the net surplus will be greater for the deep-frame than the two-story hives.

Bluemont, Va.

A Minimum Price for Honey

Bruce L. Morehouse

A Suggestion to Commercial Beekeepers to Maintain a Profitable Price for Honey

One day last fall we were called to the house for a long-distance telephone call from a well-known honey dealer.

"I would like to buy two carloads of honey, one from you and one from Mr. X. Do you have it?"

"Yes, we have a carload of honey and I believe Mr. X has a carload, also."

"Well, we want nice white honey, and can pay 5 cents a pound for it."

"Do you mean 5 cents a pound f. o. b. our shipping point?"

"No, that is f. o. b. Duluth."

"Then, we can not sell at that price, because we would be scarcely breaking even on our production cost, and we must sell at a profit if we are to continue in this business."

"That means I must turn down the order, then. I don't believe you can get a better price these hard times—you better take it."

"No, our lowest price in carload lots is 5 cents f. o. b. our shipping point. Goodbye."

Does any reader think for a minute that

this dealer or any other dealer would handle that two-carload order without a neat profit for himself? Of course not. Then, that means some buyer is paying perhaps 5½ cents or 6 cents or more a pound for that same honey in Duluth, and this middleman honey dealer would pocket the difference. I do not doubt that the dealer found some beekeeper who was hard pressed for money and so let his honey go at 4 cents or 4½ cents per pound f. o. b. his shipping point. Then, this beekeeper would join the increasing number who wonder why there is no money in beekeeping! Or, perhaps he is forced to sell his run-down outfit at a big loss. There is no getting around the fact that accepting such low prices for our honey means a loss of income that is soon reflected in a lower living scale for the beekeeper or a rundown condition of the beekeeping equipment.

Larger Producers Should Get Together

But just think what a different story it might have been if, say, 50 commercial beekeepers in this and adjoining states had an understanding that they would each say, "No, we will not sell for less than 5 cents per pound f. o. b. our shipping point." The ultimate outcome would be that one of those beekeepers would undoubtedly receive at least that price for his honey, and so maintain a higher level of prices, the dealer would have his profit and the buyer would be just as satisfied.

Then, why don't commercial beekeepers do it, anyone would ask? They will in time, perhaps. It would seem that the secretaries of state beekeepers' associations, the secretary of the American Honey Producers' League (or an officer of a commercial beekeepers' association not yet formed) could well fill the office of advising the large honey producers of a minimum price for honey sales. Surely a small group of well-informed beekeepers could set the right figure in relation to the current market to be maintained as a minimum price, and, of course any price over that figure is so much "velvet." If the commercial beekeepers of North Dakota knew that the commercial beekeepers of Minnesota were asking 5 cents per pound f. o. b. their shipping points, the North Dakotans would be able to say to the honey buyer that he is mistaken when he advises that he can buy Minnesota honey at 4 cents per pound, in order to scare the North Dakota producer into selling at that price. Honey buyers sometimes resort to buying tricks, one of which is to soberly inform the beekeeper that the market has "settled down" to 6 cents per pound when actually other beekeepers are obtaining 7 cents or 8 cents per pound.

We beekeepers are rather a simple folk when we let that sort of a story fool us year after year. We seem to lack sufficient backbone to say no to any and every offer that comes along, when we know we should obtain at least a small profit over production costs. If we said no oftener, we would have more money to buy needed beekeeping supplies, and other things, too. It is disgusting and pathetic to think of how we yearly lose thousands of dollars we might otherwise obtain because we have not banded together on this matter of a minimum price for our honey, which is wholly within our own hands.

Beekeepers Out of Touch with Markets

Beekeepers are sometimes out of touch with markets for months at a time, busy with honey production work, and so lack information as to what is a fair price to ask for honey, especially toward the fall of the year. Could we not organize, select a small group of experienced men to determine upon a minimum wholesale price in relation to general conditions, and have some central office advise the rest of us? The organization would not absolutely require that the members sell for the minimum price or more, because individual conditions vary, but in general we would do our part loyally, knowing that most of the larger producers were sticking for that price or more. The news would spread and most of the other beekeepers would fall in line.

And the honey dealer would not lose out, either. He would be glad to pay us 8 cents per pound for our honey, if he could obtain his profit on top of that. This profit that is willingly allowed on 8 and 9 cent honey is grudgingly allowed on 5 cent honey, because that is practically production cost, and in many cases under production cost. The dealer's service is legitimate, although sometimes tricky. He is trying to buy as low as possible and sell as high as possible. But with our lack of a concerted front in regard to minimum prices the honey middleman dealer, or wholesale buyer, has the whip hand in any deal. I ask you, now, if that fair to our own interests?

Some may think this suggestion is daring and I know some will bring up reasons

why it can not be done. Well, the rest of us can go ahead and do the thing that can not be done, and we can pick off the plums that the timid beekeeper is not willing to reach out for. Those beekeepers who do not co-operate in maintaining a minimum price will not reap the benefits, and one sale at a small maintained increase in price will more than pay that beekeeper's share of the expenses. I have faith that such an organization agreement of commercial beekeepers would work, if properly managed among ourselves. Are we ready for such a co-operative movement as this, simple though it is?

Montevideo, Minnesota.

Honey Plants of the Soviet Union

Dr. E. F. Phillips

Government Surveys of Natural Nectar Sources. Bees for Pollination of Farm Crops

The nectar supply of the Soviet Union naturally varies in the different parts of the country somewhat, because of variations in climatic conditions, and especially in rainfall and soils. On the whole the difference in climatic conditions is not so great as one might expect from a country which extends so far in a north and south direction, for the isothermal lines tend to run from north to south, instead of from east to west as they chiefly do with us. This results in greater uniformity in climatic conditions, incident to the continental climate of the Soviet Union.

Many agricultural plants furnish nectar to the bees, in fact, the honey sources are from economic plants to a degree greater than is common in western Europe. About half of the marketable honeycrop of the United States comes from agricultural crop plants, but anything like a proper estimate of similar proportion for the Soviet Union seems impossible. They have vast areas of buckwheat, this plant being restricted as with us to soils that tend to acidity. Sunflowers are important in the Soviet Union, partly because the seeds are used as an important source of oil for cooking, and partly because sunflower seeds take the place of chewing gum and peanuts with us. It is rather thrilling to see an experienced Russian eating sunflower seeds, for he has a technique for getting rid of the hulls that is highly efficient, if not exactly aesthetic. Basswood thrives in the wooded parts of the southern regions, extending into the Caucasus Mountains where these trees oc-

The grave of Tolstoi, noted Russian author, who was a beekeeper.

cur by the thousands. Here they extend so far up the mountains that they furnish a succession of crops at different levels which greatly extend the basswood honey flow.

Red clover occupies a vital part in the proposed developments, and there is a shortage of bumble-bees for its pollination, which fact is attested by many observers. To make up for this deficiency, they propose using honeybees, especially the Caucasian bees with the longest tongues, as pollinating agents. Cornflowers which grow in corn fields also yield much nectar. There is also a sage native to the Caucasus which is said to be a fine nectar source, but it is not one of the sages of California.

On the whole the nectar sources of the Soviet Union, at least for the western part, resemble those of the northeastern United States, and the climatic conditions are roughly the same except as to rainfall. Winters are colder and longer than with us, but the summers are short and fine for plant growth, so that the chances of good honey crops are at least fair, unless there is a drouth.

Lack of Rainfall Great Handicap

The outstanding difficulty in honey production in the Soviet Union seems to be lack of rainfall. For European Russia the average rainfall is about twenty inches a year, the highest annual rainfall indicated being twenty-four inches. This gives a total annual rainfall condition comparable to that of western Kansas and eastern Colorado. Since the honey plants are in the main those found in parts of the United States where there is a rainfall of two to three times that amount, it is seen that the chances of drouth at the time most critical for nectar secretion are far greater than in those parts of the United States where the same honey plants occur. In the Caucasus Mountains, as in mountainous regions generally, there is a higher rainfall, and this is the region where basswood seems best to thrive. Apparently these mountains originally supported a larger bee population than many other parts of the Soviet Union, and this suggests its greater desirability as a honey-producing area, if the land is tamed more than at present.

The distribution of rainfall through the months of the year is as important as the maximum, so far as nectar secretion is concerned. Of course, this distribution affects many agricultural plants. There is a summer maximum of precipitation, but in the northern part of the Soviet Union this comes in late summer (August). In the southern sections the maximum comes in June and July, which is much more favorable for secretion of nectar from the plants which furnish their crops. The rainfall is heavier in the western part of European Russia than in the East, and finally there comes the vast desert area of Asiatic Russia, where at present there is no beekeeping. These differences are reflected in the types of wheat grown. The severe winter temperatures of north central Russia make winter-wheat production hazardous, and in this spring-wheat re-

Russian peasants becoming acquainted with the radio, the chief function of which is to spread communist propaganda. Photo from American Russian Institute.

gion the conditions in winter are comparable to those of North Dakota, except as a rule rainfall conditions are less favorable.

Nectar Secretion at Higher Latitudes

It is a well recognized fact that, in the northern hemisphere, the farther north one goes, the greater the chance of good nectar secretion. On this basis the Soviet Union should enjoy wonderful honey crops. It usually comes as a surprise to learn that Moscow, the capital of the Union, is on a line of latitude with northern Labrador. When one takes a trip far to the south, to the Caucasus Mountains for example, he is by no means entering the tropics, but is then about on a line of latitude with Ithaca, New York. Similar surprises await one in comparing almost any part of Europe with our own latitudes, for the Gulf Stream warms Europe so as to make far more northerly places habitable. The effect of the Gulf Stream is, of course, more potent in western Europe than in Russia, and this is perhaps the explanation of the fact that isothermal lines in the Soviet Union tend to run north and south, rather than east and west.

Taking into consideration the high latitude and the further fact of the extreme and long winters, the result is a growing season that is short but, as is usual in the North, one of great rapidity of growth. This is a factor which leads to heavy nectar secretion, provided other meteorological factors are favorable. If the Soviet Union had a rainfall approximately double what it now has, and the present soil conditions, it would appear to have the factors necessary for a paradise for beekeepers.

In the area of black earth (chernoziom) the loessial soil need scarcely be cultivated at all in order to produce a fair crop, which seems perhaps to have been one of the causes of the poor agriculture formerly practiced there. This is a silty soil with a high humus content and holds moisture wonderfully, which somewhat compensates for the scant rainfall. The publications of the Soviet government claim that in the area of black soil and some adjacent forest area which can readily be brought under cultivation, there are 625 million acres of arable land, of which about 270 million are under cultivation. This is apparently an exaggeration, for at the time of the Revolution the total area of all Russia (including Asiatic Russia) under cultivation was 278 million acres. The total cultivated land of the United States is less than 320 million acres. Because of the lack of precipitation, this vast wealth in the form of soil can not be utilized as it might be with more rain and is devoted largely to the growing of grain. It is the great wheat belt of Europe.

The old Russian Empire was second only to the United States in the production of wheat, and while they are increas-

Hauling grain to market. The banner reads: "In giving our grain to the government, we defend the Soviet Union against our enemies. Greetings to the Red Army." Note the small loads. Photo by Russian Photo.

ing the acreage of wheat on the collective farms, their production is still small per acre and the total is now perhaps not much greater than before the Revolution, taking into account the great difficulty which they have had in harvesting their grain crops in time to prevent too great loss.

The area of cultivated land per person in the Soviet Union is somewhat more than half that for the United States. Absence of proper rotation, inadequate fertilization, unskilled preparation of the soil, erratic rainfall and the economic policy of the government combine to give low yields of wheat, for while in prerevolutionary days Russia had fifty per cent larger area in wheat, the crop was only three per cent higher than that of the United States. With better mechanical equipment on the collective farms, preparation of the soil should be better and yields should be higher, but inability properly to harvest the crops has probably resulted in no appreciable betterment of average yields.

Enormous Acreage of Buckwheat

Neschumoff claims that in 1928 there were six million acres of buckwheat grown in the Soviet Union, of which doubtless practically all was grown in the south European part of the country. Most of this was in northern and extreme southern Ukraine, where the soils are acid. The black earth and steppe areas are unsuited to buckwheat. For purposes of comparison with this figure, Roesch states that the German buckwheat acreage for 1927 was 52,757 acres. Immediately after the Civil War, buckwheat acreage and production were higher in the United States than they have been of recent years and for some time there were over a million acres in this crop. In recent years it has not equalled three-quarters of a million acres. Russia has always produced much buckwheat and it is the native home of one of the commonly used varieties of that grain. With the vastly greater area in this crop, the Soviet Union should be able to produce enough buckwheat honey for the world, provided weather conditions permit a suitable secretion of nectar. It is well known that buckwheat does less well where the summer temperature exceeds 75° F.

I did not get to see any buckwheat honey while in the Soviet Union. It is known that in the United States there is a great variation in the quality of buckwheat honey raised on different soils, and the quality most preferred comes from the soils derived from shales and sandstone in southern New York and northern Pennsylvania. Buckwheat honey from sandy soils in Michigan and Wisconsin is quite different in quality. The New York and Pennsylvania buckwheat honey is preferred by the Russian Jewish trade of our eastern cities, which leads one to suspect that this honey is the nearest to the quality of buckwheat honey with which these people were familiar in their former home land. If the Soviet Union can produce vast amounts of buckwheat honey of this quality, they can supply the European markets more cheaply than can the beekeepers of the eastern United States, and

An experimental field of buckwheat at Tula. Photo by Tunin.

it is our eastern buckwheat which finds the best market in Europe. Roesch reports that Ukrainian beekeepers make use of excessive swarming in early summer in order to have more colonies at the time of buckwheat harvest, as is done in Germany for the heather honey crop.

According to the Biblical description, certain lands flow with both milk and honey. Whatever the actual significance of this expression as applied to a far eastern land, it is a true expression of the fact that an area suitable for cattle is often and perhaps usually suitable for honey production. The people of the Soviet Union lost many of their cattle at the time of the formation of the collective farms, and an effort is now being made to regain their former position, for the production of meat and of dairy products.

Assuming that conditions under old Russia are not far from those existing today, and there appears not to be much advance in the number of cattle over former times, it is interesting to study a map showing distribution of cattle of all kinds in 1927, as given in the accompanying map. It is seen that in the area of the present Soviet Union, there are less cattle per square mile than in western Europe. This is a suggestion at least that forage is less bountiful in the Russian areas, which is in turn an indication of lack of rainfall, for the soil seems ideal for forage production if properly moistened.

The Home of Sweet Clover

Sweet clover, one name for which is Bokhara clover, is native to western Asia and Europe, so that one might expect to find it in the Soviet Union. It doubtless occurs there, but I did not happen to see it. Neither did I hear any of the beekeepers discuss this plant. Since sweet clover gets on well with scant rainfall, it is adapted to a wider range of climatic conditions than any of the true clovers and

Map showing distribution of cattle in Europe. The smaller number in European Russia may be attributed to lack of rainfall. Map made in 1917, before Revolution. Each dote represents 5000.

stands high summer temperatures. There is comparatively little winter killing of this plant in our colder states. Since many parts of the Soviet Union has soil conditions favorable for this plant, I can not now help but wonder why I did not hear more about this species. It should help out the communist beekeepers materially, especially in regions near its original home.

Most Americans have the notion that everything east of the Ural Mountains which separate European from Asiatic Russia is a vast waste of snow and ice. Tales of the extreme low temperatures

Sweet clover in test fields at Tula. Photo by Gubin.

from which political prisoners under the rule of the czars suffered, have penetrated our literature, and this is about all that most of us know about Siberia. Our trip did not extend into this vast area, much larger in extent than the area of the United States. Much of it is, of course, too cold for beekeeping, as the maps of distribution of bees have shown, nor is it proposed to try beekeeping over most of this vast stretch of land, snow, and ice. There is, however, a part of the Asiatic Soviet land which is more favorable.

Amur in eastern Asia has a higher rainfall than most of European Russia and beekeeping has already reached considerable magnitude there, chiefly in the way of commercial tests of different territories. When in Moscow, I tasted a honey which came from near Vladivostock, the flavor of which I could not identify, and the plant source of which was unknown to the exporting authorities who gave it to me. It was a fine honey, delicate in flavor, light in color and of excellent body. It is proposed greatly to extend beekeeping operations in this area. Bashkiria to the southwest of the Ural Mountains is reported to be good beekeeping territory, but I received no definite information regarding it. The bee population there is already high.

Surveys of Honey-Plant Resources

The Soviet Union is a land still to be explored in many ways. Botanists at work in the Union are able frequently to find plants previously undescribed; this is true in European Russia, and far more true of the Asiatic part of the country. Surveys of honey plant resources are still to be made for a major part of the country, but this work is well under way. For example, when visiting the Ingush Republic I examined a collection of honey plants of that country (in the Caucasus Mountains) made by Kedroff of the government beekeeping office. It was approximately indicated what relative value each species has for nectar secretion. The majority of the species were, of course, minor sources, just as is true everywhere that bees are kept. There were here, as is usual elsewhere, a relatively few plants of major importance. Such surveys, if they can be continued, will give a far better basis for estimating the honey resources of the Soviet Union than is possible for even the best informed men at present. In all such surveys there is always the danger of over-emphasizing the value of plants, until such time as the estimates can be checked by actual honey production.

Locating Test Apiaries

In view of the fact that a considerable part of former Russia was scantly populated, and consequently not fully used for agriculture, it is impossible to predict just what might happen with respect to beekeeping when the ambitious plans for extensive agriculture are fulfilled. There are regions which may be suitable for honey production in which few if any bees have ever been kept, and one of the important problems in the administration of the beekeeping project is to have apiaries moved to areas of which the possibilities are still unknown, to test the nectar resources. Some of these tests have been undertaken.

"New Life" apiary in the Ukrain.

One of the state apiaries which we visited, in Armchi (Sunshine) Valley of the Caucasus, was such an experiment. In this case 250 colonies were moved by our good friend Seribernikoff by refrigerated cars from Rostov on Don to Wladikavkas in July, 1930, a distance of about 500 miles. Part of the time on this journey the temperature rose to over 100° F., but the bees mostly arrived in fair condition. From Wladikavkas the colonies were taken by large wagons over the celebrated Grusian military road to the junction of the Terak (Sin) River and then transferred to smaller wagons for the hard trip up a mountain road or trail to an elevation of over 4000 feet. We walked down this trail, a distance of about ten miles, because it was impossible for our automobile to negotiate the road when it was wet and snowy, so we can appreciate how hard it would be to transport bees over it.

The results in this case appeared to be unusually promising at the end of the first season, for even in 1930 when they were moved, the colonies averaged over 100 pounds of honey. In 1931 they did less well and the colonies became weak, but in the early spring of 1932 the beekeepers thought that the outlook was good. Michailov has carefully examined this locality recently and has advised against maintaining large apiaries there. Obviously it takes considerable time to make such tests, because of the variation in seasons. Meanwhile this apiary has been increased to over a thousand colonies in five locations, some of which appear to be better than the site first chosen.

A trip with 250 colonies of bees up this valley must have been an exciting experience. It was thrilling merely to visit the apiary, to see the marvelous scenery and to meet the interesting people. We passed watch towers formerly used in the warfare and banditry of the region, ancient fortresses, old settlements of the Ingush people all clothed in their garbs that were strange to us, passed warlike Cossacks on the road, saw Mohammedan prayer plates by watering places, and most thrilling of all, met one of the most noted outlaws of the mountain range. At least that is what we were told, but a traveler never knows when some one is telling him tall tales for the supplying of acute thrills. I have had otherwise honest western beekeepers try to throw a bit of fear into me with wild tales which I did not believe, so when anybody exhibits a supposed bandit, who sometimes happens to be a beekeeper, I use the allowable grain of salt. My wife would be keenly disappointed if she were assured that some of the Ingushes whom we met were not bloodthirsty bandits, but as for me I think that they were mighty fine, hospitable folks.

If the men responsible for the development of beekeeping in the Soviet Union feel that they do not yet have data suitable for estimating the ultimate nectar secreting capacity of the land, certainly a visiting outsider has scant ground for a definite opinion. My friend Roesch who

Tartars having the news read to them. Photo from American Russian Institute.

visited the Soviet Union was convinced that its nectar resources may properly be envied by his German associates in beekeeping. He compares them with the "nearly inexhaustible bee paradise found in a few sections of the United States," which is the way that Germans interpret our situation after reading reports in our journals. Taking into account the lack of adequate rainfall, and the intensity of cultivation of single crops which is projected, the outlook does not impress me quite so favorably.

Effect of Vast Areas of Single Crop

It has already been indicated that vast areas are planted to one crop on the collective farms. For many of these crops it is proposed to use bees for pollination agents. There are few places in the United States where a single crop is grown on such vast areas as to preclude the possibility of the bees getting supplementary nectar from other plants. The nearest approach to this is perhaps to be found in the alfalfa region where this plant is cultivated under irrigation. But even here there is much sweet clover as a supplemental source, and in many places bees gather pollen and some nectar from non-irrigated areas. Throughout the moister parts of the United States, the bees gather one or more major honey crops and between whiles gather much nectar and most of their pollen from minor sources. With fields of clover, sunflowers, alfalfa or buckwheat miles long and wide, and with colonies placed in the midst of these fields for pollinating the flowers, it is doubtful whether the bees can make a living from most species of plants unless they are transported to another location for part of the year. It is proposed in so far as feasible to use the colonies more than once in a year for pollinating seed-producing plants, and if this can be done it will greatly increase the chances of a living for the bees and of some honey for the beekeepers.

Nectar from Wheat Fields

I can not resist the temptation to tell a joke on myself in this connection. When I gave a lecture at Rostov on Don, with the kindly aid of my friend Alpatov as interpreter, at the close I was asked many questions, I might well add, as usual. One of the questions as translated to me was whether it would pay to move bees to wheat fields, and when Alpatov gave me

Celebrating the anniversary of the Revolution. The banner reads: "To strengthen our collective farms, the peasant and proletariat must unite." These are peasant women. Photo by Russian Photo.

this question I assured him that he must have made a mistake, since wheat produced no nectar. He had made no mistake, however, so I insisted that it would not pay to move bees to wheat, where no nectar could be had. This created smiles. Later I learned that some beekeepers actually move bees to wheat fields, where the bees get a fair crop from weeds in the wheat, but then I could scarcely be expected to realize at that stage of our trip the magnitude of the weed crop in wheat fields of the Soviet Union. I feel still that my blunder is excusable.

Average Yield Per Colony

It is not possible to state with accuracy the average yield of honey per colony, but this was given by Kasatkin as roughly ten kilograms (22 pounds) per colony for the Union as a whole. For crops of observation stations reporting to the Tula Station, Roesch gives an average production of 83 pounds, but these reports were from selected apiaries. Twenty-two pounds seems not too high, but it is as high as the official average honey crop for the the United States, which is probably inaccurate. Naturally in the hands of better beekeepers and with a good system of management, this average is much surpassed.

It is the aim of the program of Pchelovodkolkhoszentr to increase the number of colonies and at the same time to increase the skill of the beekeepers to a degree so that the average honey production may at least be maintained, and if possible increased. This is, of course, primarily a matter of education, for all beekeepers are aware that the crop is detemined as much by the skill of the beekeeper as by the apparent nectar supply. For the observation stations, of which there are many sending reports to the central offices, the average yield far surpasses the average given above, as is to be expected.

Ithaca, New York.

Present Status of the Beekeeping Industry

J. Franz Norgren

Also a Glimpse of the Future. Will Number of Small Producers Increase?

Most of those having any definite knowledge of the beekeeping industry quite uniformly agree that alert honey producers have come through the depression with somewhat more of their colors flying than have many of their neighbors in other primary pursuits. True, beekeepers were slightly taken a-back by the lethargy of the market, but at no time, it is safe to venture, did they lose sight of the silver lining. As a new season rolls around a new enthusiasm will be born to promote improvements in systematic honey production which have been called for by recent low prices. Perhaps no other vocation would respond as generously to a little extra brain work and timely attention as the artful work of beekeeping.

Great Advantage in Equipment and Efficient Management

There are some things we honey producers of the prairie states (statements are confined to this section although the details may apply to the continent) possess that may well incite the envy of those in other lines of work should they stop to consider. In the first place we have practically unlimited range of choicest nectar bearing plants. We are using the most practical and adaptable apiary equipment. This fact is substantiated by writers and beekeepers who have scouted the world in the interest of beekeeping to find the Langstroth 10-frame hive, of the type used in this country, superior to anything yet devised.

We have the method of colony management—thanks to a nation of progressive beekeepers and periodicals that distribute information from one end of the continent to the other—although some of us may not have put these methods to their fullest use. We have that which gives a distinct point of advantage over producers of competitive products, viz., a product which is practically complete as produced requiring the minimum in expense for labor and machinery in preparing it for market. But we have not a well rounded out distribution system. We are not fully equipped to impress the millions of prospective consumers with the desirability of honey. Without a doubt the American Honey Institute will prove to be the great factor in

solving the distribution problem. If it is given the unanimous acknowledgment and support of producers, it must succeed, for its object is that of providing useful and truthful information about honey which has never been known or has become obscured by the intensive selling force applied by competitive manufacturers.

Like Cattle Barons of the Old West

Were it not for lack of the information among the public concerning the goodness and unexcelled food value of honey, one could easily visualize the commercial beekeeper of today as holding a unique position. The position is similar to that of the cattle barons of the old and glamorous West. Those cattle kings, unfenced and unafraid, built fortunes through volume though the selling price was low. Those monarchs of the range grazed their herds over unrestricted acres, moved when conditions warranted, and generally found the end of the rainbow.

Eventually, drawn by the urge for a livelihood and a share of the great enterprise, settlers edged their way into the vast domain where the cowboy's chant was the scripture and the quickest shot was the judge. The lordly cattlemen withdrew their countless thousands of head as hundreds of homesteaders came to wrest their living from the soil with the help of more or less than a dozen somber-eyed cows.

In the light of past history it is possible to suppose that the state of affairs of honey production may some day exemplify those which have come to pass in beef production. Conditions brought on by depressions and the desire of everyone to become more self-supporting may ultimately result in everyone possessed of a strip of ground, or otherwise qualified, in becoming a producer of his own honey supply with a surplus to market. Not until then will area limitations for the large producer become a distinct problem. As these conditions will hardly develop instantaneously, if at all, we may leave it for the next generation and the sugar refiners to worry about.

Not a Case of Overproduction

At present there is talk of overproduction of honey. There seems only one logical answer to such an opinion—it is in the form of a question. Can there be an overproduction so long as honey does not replace the greater percentage of sugar and syrups now being consumed? Moreover, as a case in point, figuring South Dakota's population as against the number of colonies in the state, we have production of approximately three and one-half pounds per person. Out of this amount many carloads are shipped out. These figures do not sound like overproduction since, if the people were inclined toward the use of honey, there would hardly be enough in the state for a respectable taste for each one.

Thrown into direct competition with the manufactured products honey may be called upon to suffer slashings in price while producers are required to exert every effort in letting it be known that honey is the original sweet—original and specifically designed by the Master Workman as one of the necessities to the well-being of man as He created him. Relentless as the struggle for supremacy may come to be, it is not folly to presume that long after sweet factories have molded into decay for want of a cost-covering price, beekeepers will continue to blithely attend their bees.

Still Plenty of Room for Improvement

Commendable as the development in honey production has been in recent years there are still some exasperating wrinkles to be smoothed. Important of these are disease control, the simplification and perfection of extracting plants and machinery, improvement of storage facilities, and the preparation of the product for market; also universally accepted containers. These things, undoubtedly, will be corrected as production ascends to its deserving volume. The dictates of competition will not tolerate inefficient equipment or misjudgments in the final touches to the product.

It is common occurrence to see a beekeeper struggle with two sixties, hoisting them in and out of a wash boiler on a fuming kerosene stove, with a questionable grade of honey as the result. (The write is also guilty). Competitive sweet manufacturers would be licked before they started if they contented themselves with such antiquated methods of processing. Their volume and expense would not permit it. Furthermore, the sugar refiners and syrup makers would not have grown to their present proportions if they had not consistently declared the merits of their products so everyone might hear.

Summary

We have practically unlimited range for our bees. We have the bees and the

(Continued on page 702.)

From the Field of Experience

FALL TREATMENT FOR DISEASE

Not Profitable With Package Bees at Present Prices

Some years ago, when American foulbrood was prevalent in our yards, I worked out a scheme for treating, late in the fall, those diseased colonies which had previously escaped detection. The plan was to shake the bees into an empty hive-body and after three or four days give them combs of honey sufficient for winter stores.

Did it work? Well, it did in a way. Most colonies so treated did not develop the disease the following spring, but some did. Most of them, although strong in the fall, came out weak in the spring, probably on account of the preponderance of old bees when treated.

Since then I have wondered why anyone would want to save such colonies, even if they came through all right. Package bees and in many cases, whole colonies, may be bought the following spring for less than the value of the honey necessary to winter over the colony thus treated. A colony has little value in the fall above that of the hive, the combs and the honey; so when we count the cost of extra labor, feed, and the liability of spreading disease, the bees in a diseased colony are worth less than nothing. It is far better to gas them and burn the contents of the hive. If bees are shaken from infected combs, some are almost sure to enter nearby hives, thus carrying infection to healthy colonies.—E. S. Miller, Valparaiso, Indiana.

A CHANGE OF HEART

Bees Extremely Cross One Season and Gentle the Next

I have met some mean bees in my time, but never have I met any that equaled those we had in one of our apiaries last year. They were so mean that they would try to sting the sunshine. They would meet us half way, sting right through gloves and pants, and I have even had them sting my foot through a hole in my shoe. But those bees certainly knew how to get the honey. If I were to tell you how much honey they stored last season you might not believe me.

When I located the bees in that particular spot I supposed they would get water in the woods nearby. Ordinarily they did, but the season was so dry that the source of water dried up. Consequently, they had to cross a cultivated field to get water. Furthermore, they were located among some trees and had to fly up through the branches. There was, however, an open space where the bees flew up and over.

The owner of the farm on which the bees are located is a fine fellow. He likes bees, but he didn't have a chance to get within gun-shot of our bees. He kept as far away from them as possible. In order to cut his alfalfa near the apiary, he had to slip up early in the morning or late in the evening to do the work. He wanted the bees on his place and suggested that we move them about a quarter of a mile down by the creek in an open space. Late in the fall the bees were moved to their present location which does not have any trees or shrubs close to the hives.

Last spring I supposed that the bees would still be vicious, but for some reason they have experienced a change of heart. We have worked the entire yard of 90 colonies without gloves, and we have eaten our lunch right beside the hives. What caused them to become gentler? Is it because they are away from trees, is it because of their not having to go so far after water, or has the season and weather conditions had something to do with it?

At any rate, they are now very gentle and it is a pleasure to work with them. I shall be interested in hearing from others who may have had similar experiences. If it is a fact that nearness to water has a tendency to improve the temperament of bees, we should by all means locate them where they have easy access to water. It is surprising how much water a colony will use in the course of a season and especially when the weather is very dry. Possibly some of us overlook this essential requirement in beekeeping. Then, too, there is a possibility that bees placed in a wooded spot where they are in too much shade and have to fly up among the trees become cross. The location of api-

aries may have more to do with the temperament of bees than we suspect.—Jack Deyell, Manager of The A. I. Root Company Apiaries, Medina, Ohio.

PAPER BAG INTRODUCING CAGE

Simple Method of Introducing Queens with High Degree of Safety

I have frequently seen in Gleanings in Bee Culture various methods of queen introduction, but I have never seen a simpler one than the one I use almost invariably. This is the paper bag method. The principle is the same as that of uniting two colonies through a sheet of newspaper. The method is as follows:

Catch and destroy the old queen. Then immediately take a small, thin paper bag, prick a few holes in it. Place the new queen therein without attendants, then catch about half a dozen young bees from the hive to be requeened that are filling themselves with honey, and place in the bag with the queen. Place the bag between the brood combs in the hive. In a very short time the queen will be out and laying.

I have had only one failure with this method, when there was an absolute dearth of nectar. Both the queen and the bees are so anxious to get out that they take no notice of one another, but rub shoulders, and probably the queen will after a while ask them for food. The paper bag is eaten away, the queen emerges, and is accepted. The beauty of this method is that the hive is queenless for so short a time that no queen cells are built. Only one visit to the hive is necessary, except for one four or five days later to make sure that everything is O. K.—H. Willoughby Lance, Apiculturist, Western Australia Department of Agriculture, Perth, West Australia.

EQUIPMENT FOR HEATING HONEY

Small Outfit Suitable for Processing Honey to Supply Roadside Stand

I do not heat any of the honey that I ship, neither do I put up honey to sell to merchants. I gave that up about 15 years ago. All the honey I put up in glass and five-pound pails is heated to prevent granulation and all so treated is sold at my honey stand a mile from where I live. I do not need a large equipment.

I have a three-burner gas plate elevated about 14 inches above the floor. If the honey is granulated I place a tank open at the top on the hot plate and place into it as many 60-pound or 30-pound cans as I wish to heat and fill the tank with water to within two inches of the top of the cans. I do this in the evening, say at 5:30 just before dinner. As soon as the water is just hot enough so the hand can be placed in it without burning, I shut off the heat, cover the top of the tank and go to my evening meal. In the morning I repeat the performance and shut off the heat.

When I get home in the evening I pour the honey into the heating tank which is simply a jacketed tank of galvanized iron as wide as the six-burner gas range. It has a 1½" space between jackets at the sides for the water, and the floor slants to give a 1" space at the end where the honey gate is placed and 2½" at the back end. A 3" space at the back is open to allow for pouring in the water. The water fills the spaces at sides and bottom. The top of the tank is left open when heating the honey, a point I consider important as it allows some moisture to evaporate and gives the honey a higher density.

While the honey is heating, I agitate it frequently. A high-registering, tested thermometer is kept in the honey while heating. At about 134° a white scum is seen on top of the honey which I skim off. At 155° I shut off all the heat and watch the temperature slowly crawl up to 160°, when I agitate the honey for the last time. If it stands at 160° I pull the honey gate and let the stream of honey strike a wide sheet of glass where it flows through the strainer to the slanting glass. After about 30 minutes I skim the small white air bubbles off the top of the filling tank and place a light cover over the top. The honey gate of the filling tank is just the right height above the floor for comfort in filling the containers.

Hot water is run into the heating tank, after which it is drained, wiped clean, and the top covered. A valve at the front end lets the water out of the heater. The heater, made of heavy guage galvanized iron, can be built for about $20, and the rectangular tank for heating the granulated honey, for about $7.00. This small equipment is about the right size for a retail business. I would not want a larger.—J. F. Dunn, Ridgeway, Ontario.

BEE STINGS FOR ARTHRITIS

An Appeal to Beekeepers for Information in an Important Scientific Study

I intend to publish very soon a book giving my experiences in the treatment of arthritis and rheumatism with injectable bee venom, which will cover all phases of the subject. At the same time, I will include a lengthy article on the medicinal, and at the present time unjustly neglected, use of honey. The answers to the enclosed questionnaire will be of vital importance. I am interested in getting as many answers as possible. This should be of mutual importance to both of us, considering the common cause. I would ask you to facilitate the widest possible distribution of the questionnaire.

QUESTIONNAIRE TO BEEKEEPERS

1. If, before your occupation of beekeeping, you were stung by bees, were you, or were you not, sensitive to the injury? Kindly state to what degree.

2. If you were sensitive, did the sensitivity continue, lessen, disappear, or increase during your close contact with bees?

3. In case you became immune to the effect of bee sting injuries, what length of time did it require?

4. Please give your local and general symptoms of (a) a normal sting; (b) an unusually severe sting.

5. What is your favorite remedy for treating both the local and general effects of bee stings?

6. Did you ever suffer from rheumatism or arthritis before you kept bees? If so, taking for granted that you were stung by bees, have you been relieved, cured, or have you had a recurrence? Please give details as to time and other important aspects.

7. Did you acquire either of the above ailments during the time you were exposed to bee stings?

8. Do you know of a case of paralysis or cancer improved or cured by bee stings? If so, kindly give details.

9. Do you know of any fatal cases resulting from bee sting injuries? If so, give approximate number of bee stings and other details. Give initials of victim, also place where it occurred, to avoid error of recording the identical case more than once.

10. Have you any additional interesting or instructive general facts to report? If so, please give full details.

It will be greatly appreciated if you will make your answers clear and complete and return them to me at your earliest possible convenience. In giving your answers, please use the numbers corresponding to those of the questionnaire.—Bodog F. Beck, M. D., 205 West 57th Street, New York, N. Y.

BEES FLY WITH METAL WINGS

The Adventure of a Swarm of Bees and an Aeroplane

A hum like a thousand swarms of bees. The passing shadow of metal wings. A monoplane descends on the turf and makes its way up to the hangar like a honeybee approaching a white clover blossom. A. Y. Ensley, business man and aviator of Livingston, California, gets out of his plane and examines the metal wing. A bee or two crawls out of a small hole which gives access to the dead-air space between its double walls. These remaining bees are the only survivors of a whole colony which tried to fly with metal wings!

The swarm entered the wing of Mr. Ensley's monoplane while it was unused in the hangar. Mr. Ensley, whose plane was yet unfinished, did not discover the bees until they had located in the wing and had built comb there. Since the bees did not molest him while he was giving the finishing touches to the plane, he let them continue their work, anticipating the outcome of their experience of flying with metal wings. Evidently the experiment was not very successful from the bees' standpoint. Mr. Ensley, in reporting the adventure said: "The bees, like many of my friends, seemed to want just one ride."

It is surprising that bees should establish themselves in the wing of an aeroplane. But it is still more surprising that they should enter the wing of a beekeeper's aeroplane. Mr. Ensley, although not actively engaged in beekeeping at the present time, spent a number of years working in his father's apiaries then located at Mesa, Colorado. His father, R. W. Ensley, is well known to western beekeepers, and is at present engaged in commercial beekeeping at Aberdeen, Idaho.

It is unjust to report Mr. Ensley's novel adventure with this unfortunate swarm of

bees without telling something about the plane. It carries a 90-horsepower Curtiss engine and was built by Mr. Ensley himself during spare time in a period of three years. It is a two-passenger monoplane weighing 1425 pounds with a length of 19 feet, a wing spread of 30 feet and a wing surface of 150 square feet. It has a maximum speed of 123 miles per hour and had a total flying time of 143 hours previous to January, 1933. The bees entered the wing in the early summer of 1932 and remained there for the greater part of the summer until Mr. Ensley made his maiden flight.—A. E. Fife, Logan, Utah.

SPINSTER JANE SAYS—

To my notion, autumn work with our bees determines next year's honey crop to a certain extent. Strong colonies, and an abundance of honey, is the price of the bees' life insurance and we all should take out that policy. Of course, we have no control over weather conditions, though, as Mark Twain put it, "a great deal is said about the weather, but nothing is ever done."

Autumn work with the bees is most interesting. Unite two weak colonies, or better still, add one of each to a strong colony, and though lessening our number of hives, we make them of much greater value. One live hive is much better than two dead ones. This is an age demanding the very-much-alive humans, and the same applies to bees. Not long ago we read where a man advertised for a housekeeper. He wanted one with lots of pep, able to sing and dance, and added tersely, "the dead and dying need not apply."

Uniting bees sets us philosophizing. If a whole houseful of needy human beings, men, women, and children, were unceremoniously dumped into the home of a very prosperous family, what would result? Say! Just ask the man of the house to give up his bed for one night when an unexpected number of guests stay over, and hear him grumble! Then think of a deluge of such! Oh! Oh! No privacy, his cherished possessions made common property, his favorite chair taken, his paper mislaid, even his food rationed! And fireworks between the two kitchen queens are as certain as death and taxes.

Bees, however, are more far-sighted. They deal with the extra queen in a more drastic fashion than the law allows us poor humans. There is no hesitating over the deed, either.

The children, being bees, have been properly brought up and will prove a wonderful asset. As to the drones, well, the bees know how to deal with them if food grows short. Of course, cooky jars should be well hidden, fruit cakes, etc., put safely away. In other words, being lusty males, with their everlasting appetites for sweets, the store must be closely guarded as they selfishly think only of themselves.

The worker-bees, being sedate females, thinking only of their housekeeping cares, get along well together. There are no "kilkenny cats" among them.

Do they get news of interest from the invading colony? Do they learn any new wrinkles about housework? We wonder, but all we know is that the hive settles down and all we hear is their peaceful hum.

One is always getting new ideas, even from men at times. Recently we had a visitor who has discarded the use of quilts for his hives. He also gives each colony, for winter, a full super of honey. The latter seems a sensible thing to do, especially when honey is cheap, but I like the quilts, and so do the bees. Just notice how closely they cement them down. To them it means guarding their stores more closely from backyard sneak thieves, or, as with us, locking the back door before the pantry is raided.

Well, it won't be many days until my bees are snugly packed away, then Spinster Jane plans a pleasant trip to the eastern part of our province, and with ears and eyes wide open, she may learn many new wrinkles to pass on to you older, experienced bee-folk.

Another connundrum in closing: When does a worker change into a drone?

Answer: When he gets too much relief.

—Spinster Jane.

HIVES BURIED BENEATH SNOW

It Is Useless to Shovel Snow from Entrances of Hives

It is a waste of time and energy to shovel snow from the hives during winter. In fact, it causes useless disturbance of the bees as well. This also applies to the use of a crooked wire to dig dead bees out of the entrances.

Several years ago I discovered the bene-

fits of boring a hole midway above the entrance in the lower hive-body for ventilation and an emergency entrance, in case the regular entrance becomes frozen or closed by dead bees, or from other causes. A ⅜" hole bored into the end of the hive-body does the work even if the snow drifts several feet deep over the hives, or if sleet or melting snow freezes in the regular entrance.

Of course, if the corners of the hive-body gap open sufficient to permit the escape of a single bee, the hole will not be needed. Care should be taken to see that the bees do not close these openings with propolis at the approach of winter.

It is claimed that bees may obtain enough air through the wood to permit them to survive the winter, but this remains a question as yet. If the bees find that the entrance is closed they often, if not always, worry themselves to death within a period of time, therefore the extra entrance is required.

When the hive is completely drifted over with snow, the warm air will melt away enough to permit a flow of air through the ⅜" hole.—J. H. Sturtevant, St. Paul, Nebraska.

COMMENTS ON CURRENT ITEMS

On page 586, the editor says, "One of the best attended meetings last winter was one in which the program makers decided to have an old-fashioned beekeepers' meeting—one in which beekeepers could talk shop to their heart's content." There is no question but that is true. While scientific subjects are intensely interesting, practical talks by beekeepers who have learned their trade by hard knocks and have made a success of their vocation are the better appreciated.

At the big meet of the Empire State Honey Producers' Association a prize was given to the one who made the shortest speech. At the large meeting on the following day of the Ontario Beekeeepers' Association at Queenstown, this was mentioned, but certainly overdone. We would have been glad to have had our American guests (the addresses were all given by the visitors) finish their addresses instead of being obliged to leave out so much we wanted to learn.

It reminded me of the old colored man who attended a meeting of his white brethren. The meeting was to pray for rain during a long drouth. He didn't like the prayers, so when his time came he made such a petition that he was sure would bring results. His petition ran something like this: "O Lord, we don't want that sort of a rain—just a gentle zephyr drizzlin', droppin' rain; but give us a regular, rip-snortin', gully-washin' downpourin' rain. So, O Lord, let the thunder beller and the lightnin' flash and send us a good down pourin' rain that will reach right down to the bowels of the yarth."

That night he got just what he prayed for. But it took the roof off of his barn, beat his corn into the ground, smashed his chicken coop and scattered the chickens over his own and his neighbors' fields. His wife said she never knew him to undertake anything but he "overdone it." So I think we should go back to the old rule and, when they go over a certain time limit, sing them down after the custom of the Salvation Army.

On page 587, a good method of wintering small colonies is well described. When I was anxious to increase the number of my colonies I seldom doubled up for winter. I had no trouble in wintering nuclei by following that method. Reducing the size of the brood chamber is a very important detail. Winter them on only as many combs as they can cover, the combs having a few empty cells in the lower part of the frame. Pack well on both sides in the brood chamber and put plenty of packing on top.

For this locality we put several thicknesses of paper over the inner cover. We need no upward ventilation here; in other words we do not ask the bees to spend energy keeping a lot of packing warm, taking it away from where it is needed. We pack on top of the paper. We are not and never have been troubled with dampness in this locality.

I found Dr. Phillips' article commencing on page 588 very interesting. I remember the many attempts years ago to breed bees with longer tongues, and it might have been a success if mating could have been controlled.

On page 597, Dr. Merrill stresses the importance of windbreaks. His experiments prove beyond a doubt that windbreaks are just as important (perhaps more so) as packing. When both are well looked after, a lot of us would not give a buffalo nickle for insurance.

After all, packing is really a form of wind protection. One may pack hives ever

so well but if a cold, high wind strikes the hive it will pull the heat right out of it.

Mrs. Nielsen (page 612) is right. Good signs pay. When we first put up the 300-feet-ahead signs, our actual sales at the stand increased about 25 per cent. Then the department prohibited signs nearer the highway than 200 feet, so we took our signs down. Small signs are allowed, but the size is too small to be seen by passing motorists.—J. F. Dunn, Ridgeway, Ontario.

BEEKEEPING IN SCOTLAND

Favorable Climatic Conditions and High Prices for Honey

Conditions here are entirely different from those ruling in the United States. We have neither wintering nor marketing problems, while foulbrood is rare—in fact, I have not seen a case for over 20 years. The once dreaded acarine disease is now better understood and losses from this cause are few. No cellar wintering is necessary, our colonies being always left on their summer stands with no more winter packing than a few newspapers over the usual cotton quilting.

Our honey is easily sold at retail prices ranging from 36 cents to 60 cents per pound for honey in sections and glass jars. We do not market honey in tin containers, as glass makes a better display, although the screw-cap jars are expensive at 4 cents apiece.

Personally, I have been packing honey in the ordinary commercial glass jam jars holding one pound and costing 1 cent each—a considerable saving. With these, instead of metal screw caps, we use almost white covers of a material called "cascaphane." This, like celluloid, is flexible, the covers being merely pushed on, hold firmly by air pressure.

We like to keep our honey from lengthy contact with any kind of metal, and, if storing in tin containers, I would prefer to give them an internal coating of beeswax first.

It may well be asked why honey sells readily at high prices in hard hit Britain, forced "off gold," while in the United States with its enormous reserve of the precious metal, the citizens can not afford to buy American honey at right prices. Generally speaking, British policy makes for a more equal distribution of wealth than is the case in America. Here, the rich are taxed to provide useful work and money wages for the temporarily unemployed, who can then buy my honey, while in turn I buy from a producer of something else, and so on ad infinitum.—J. M. Ellis, Gretna Green, Scotland.

FOR OPENING SCREW-TOP CANS

A Homemade Wrench Which Will Unscrew Badly Corroded Caps

At the honey packing plant of Mr. J. A. Simmons in the basement of the Prudential Hotel in San Antonio, Texas, I saw such a handy, dependable opener for the 60-pound screw-cap cans that I attempt to pass the idea on to others.

The two pieces that fit around the screw cap and the handle, as shown in the drawing, are made of ¾" wood. The straps that hold the device together are made of 1" wide metal strips such as come with bundles of corrugated iron roofing. Underneath the strap on the left is another metal strap attached to the handle and two

Wrench for loosening screw cap on honey cans.

short straps, one at each end, to hold the loose piece of wood in place. The longer one is, of course, the same length and size as the strap shown on top.

Where the handle touches the movable wood block, a piece of tin is tacked to reduce friction. The metal strap which is partly over the hole in which the can cap fits is not allowed to come down to the side of cap but remains on top of it. It is the inside wood that creates the friction and enables one to unscrew the cap. It will unscrew any difficult and badly corroded cap.

I have given no dimensions as caps are made in a number of sizes and one must make the hole in the blocks of wood to fit snugly around the size cap which he has to unscrew.—H. E. Coffey, Whitsett, Texas.

Thanksgiving

As Thanksgiving Day is approaching it makes one reminiscent. I think of the Thanksgivings that have passed in my recollection and of the dear ones who gathered around the table at Thanksgiving who have passed on.

I wonder if we beekeepers are as thankful for the blessings we enjoy as we should be. I have heard people say, "I have made a failure of life and lost all the money I had." That is the trouble with too many. They think if they have failed financially that they have failed completely. I have often stated that most people go through life focusing all their attention upon the non-essentials of life and fail to see the things worth while. I believe God made the rule in the beginning that anything worth having must be gained by sacrifice and work. You can see that He did not consider money or goods worth anything for they can be given away or stolen. The things worth having such as your character, your health, your education must be gained by work and sacrifice. Remember, "The Kingdom of God is within you," and you can be happy or miserable as you choose.

Nearly forty years ago I went to Wisconsin on a bicycle. Everything went wrong with that pesky wheel, and I spent more money on it for tires and repairs than the fare by train would have cost. So the money I took with me melted away and I had to go it cheap in getting my meals and lodging. When I came to a fine large barn I would stop to see if I could sleep in it. As a rule, I found that fine barns were not for human beings to sleep in, but hogs, cows, and horses were given preference.

One day just north of Paris, Illinois, I approached a place where there were nice buildings and a barn. I was not only refused to the barn, but was told to move on and hurry about it. Later I came to another place quite in contrast to the other. The buildings were small and I remember the roof of the house was covered with tarred paper. But there were flowers in the yard and everything was neat and tidy. The whole atmosphere spelled kindness, and I knew I would not be turned away. The dog came to meet me and even he was friendly. I asked:

"May I sleep in the barn?"

"Why, certainly, if you prefer, but better come in the house," was the reply.

The man had just finished milking, and he gave me a drink of warm milk. It seemed I had never tasted anything so good. If there is anything better than the milk of human kindness it is warm milk. As I would not sleep in the house, they brought me clean sheets and nice white pillows and blankets.

Next morning at breakfast the man gave thanks. While he was doing this, I

And for their Thanksgiving dinner they had wild turkey.

could not help thinking of that old grouch who had ordered me off his place. I thought, "I will bet that old hog is not giving thanks this morning for he is not thankful for anything." After breakfast the mother said:

"As you see we do not have a very pretentious house. We used to own this farm but went to Dakota and lost what little money we had. Now we are back on the farm as renters, but we will own it again some time."

I remarked that that was indeed very unfortunate when she looked at me in a way that made me feel my inferiority complex. We did not call it that in those

(Continued on page 692.)

From North, East, West and South

NORTHERN CALIFORNIA.—The season for producing surplus honey is past for 1933. From now on bees will be able to bring in some honey each month of winter. It is not an uncommon thing to hear a beekeeper boast that his bees bring in each month as much or a little more than they consume. On the other hand, many of our best beekeepers prefer having their bees remain in their hives two or three months of the winter and do nothing. They will tell you that they come out in better shape for the spring work.

Beekeepers coming into our office show plainly by their actions that they have had another disappointment. They tell of the poor crops where they had every reason earlier in the season to expect good crops. Few of them got more than half as much honey as they expected. But as usual they are hopeful for the coming season. This is good. If it were otherwise many would go out of the business this year.

There has been a good demand for honey and those who had to take the first offer have sold out. The result is that there is less honey in the hands of producers at this time of the season than usual. The prices have been a little better and beekeepers have needed money badly.

We all have great hope in a beekeeper's code, and many beekeepers are spending all their time trying to work out a plan that will suit them. This will prove a good thing if by this study they learn that their future success will depend to a great extent on themselves.

It Is Extremely Important That Beekeepers Know Their Production Costs, Also Costs of Bottling and Selling.

The Pacific Coast Bee Culture Field Station at Davis is busy on the first or trial records for the California survey of cost and management, after which the first forms will be mimeographed and the work continued. As soon as the report is in the hands of the beekeeper he can see the narrow margin the beekeeper or bottler can have, at the best, and how easily he can give away, throw away, or otherwise lose the little profit that he might make under better conditions. If beekeepers can once get a glimpse of all the expenses and the true cost of their product, it will go a long way toward making them conscious that the profitable conduct of their business depends largely on themselves. Likewise if the beekeeping-bottler can be shown all the costs which go into his bottling of honey and selling it at retail, it is almost unthinkable that he should not insist on a fair price for it instead of selling, as he so often does, at a price that not only gives little or nothing for his labor but may not even pay interest on his investment.—Cary W. Hartman, Oakland, California.

SOUTHERN CALIFORNIA.—Los Angeles County Fair had the largest attendance of any year since its inception—over three hundred thousand. Riverside County honey producers took first prize and Los Angeles County second. These exhibits undoubtedly do the industry much good by acquainting the people with the habits of bees to a certain extent and advertising honey.

There is in every county or community a man who loves to put on displays if the people show that they appreciate his labor and efforts. It is seldom that they are paid for their time by the premiums they receive, but the industry is the gainer. Chas. Kinzie of our county is one of these good fellows. He puts in days of time on exhibits for which he never gets a cent.

One of the topics for discussion at the beekeepers' meeting at Balboa, October 12-14, was codes. Every other line of endeavor seems to be getting code-minded and it seems to be in line for the beekeepers to do some thinking along that line also. If the brokers and distributors will formulate a just and fair code, there is little for the honey producer to worry about. The large majority of beekeepers do all or nearly all of their own work, so the labor problem does not interest many.

Weather conditions were ideal so far as comfort was concerned until the past three days when it turned hot and we had some of the most uncomfortable weather of the year with a small "shake" thrown in. Hot weather, like the shakes, does not last long and we have so many things to be thankful for that we do not mind a little inconvenience occasionally.

Bees are in good condition with plenty of stores in most cases and disease well

under control. This does not apply to a colony that the writer located in a large cedar tree some 50 feet from his mountain cabin the last time we were up there. The elevation is over a mile above sea level; spring is late and winter comes early so the chances are not good for bees to carry on. I think I shall take up a few pounds of off-grade honey and give them a Christmas present in October.

Prices on Both Honey and Beeswax Are Strengthening, But Still Have a Long Way to Go.

The prices offered for beeswax have gradually increased and we see no reason why they should not go to between 25 and 30 cents. Honey prices have strengthened to some extent. Buyers seem to be able to get enough to fill orders without raising the price to producers very much at any one time. All the beekeepers want is a fair price for their labors and many think that from seven to ten cents for first grade white honey is not asking too much. If we could get a crop every year of even 80 pounds per colony, it would be easy to fix a price fair to all. But, I dare say that one-half of that amount would raise the average of the majority of southern California beekeepers. The fascination of beekeeping, the idea that the bees do all the work, and that the honey is all profit, has and will continue to lure many into the business who stay a few years and go out again wiser if not wealthier.—L. L. Andrews, Corona, Calif.

WYOMING.—I am writing this on October 3, and we still have flowers blooming in our garden. This has been a most unusual fall with no bad weather to date. One scale colony produced over 80 pounds of honey between September 5 and 21. Last year we had a killing frost on August 29.

The bees here at Laramie are ready for winter with plenty of good stores and nicely balanced clusters. I wish I could say that for all parts of the state, but conditions are not so good all over. In many sections bees are going into the winter light in stores and many colonies are weak.

So far this fall we have been bothered a lot by skunks, and the bees have been rather cross as a result. I would like to know some easy way to combat these pests. Our yards are a considerable distance from town and frequent trips for shooting or trapping are impossible. We leave our colonies in the summer locations until late in October to avoid the usual thefts by townspeople and this gives the skunks free rein.

We introduced a lot of young queens during early fall and, as usual, had a much higher percentage of acceptance in the Italian colonies than in the Caucasian. I am wondering if others have had this experience or is it "just one of those things?"

The local stores are now stocked with honey from out of town. This honey, packed, labeled, and transported by truck not less than 130 miles and lots of it over 500 miles, is retailing at 39 cents per five-pound pail. Is there any sound reason why honey should sell anywhere for less than cheap jams and syrups?—C. H. Gilbert, Laramie, Wyoming.

UTAH.—This part of Utah has come up to October 1 with only one-half inch of rain since last May. Sweet clover plants on the dry land are mostly dead. Willows and dandelions are our most important spring honey plants and they don't seem to be damaged much by drouth.

About 60 per cent of a normal crop was secured in this section of the state. The quality is very good, but the color is not quite as white as normal. Bees have not increased enough to make up for the winter and spring losses. Bees are going into winter in very good shape when we consider all the conditions.

I don't know yet what it will mean to have the state inspector's office abolished and the county appropriations cut down so they are insufficient for proper inspection. One outfit has already gone from 1500 colonies down to 300 from foulbrood, bad wintering and neglect.

Both Demand and Prices Are Beginning to Show Some Improvement Over Those of Last Year.

There is much more inquiry for large lots than last season, and on account of a very poor fruit crop there is a good demand locally. Chain stores are now making a slight advance in prices for 5 and 10 pounds pails, but some producers made the mistake early of loading them up at last year's prices. I feel sure they can not

replace their stock at these prices when sold out. Comb honey is scarce and in good demand at an advance of from 25 to 50 per cent in price over last year.

Most beekeepers feel like carrying on to the best of their ability feeling sure that as other industries get back to normal, beekeeping will rank as well or perhaps a little better than other branches of rural industry.—M. A. Gill, Hyrum, Utah.

SOUTH DAKOTA. — Peculiarities of 1933 again assert themselves. It is odd indeed, to come this far into the fall (October 6) without the crispy touch of frost. Generally we look for a light freeze during the first half of September. As it is, sweet clover fields are still carrying their blossoms; but due to lack of moisture they are secreting nothing. The honey flow tapered off to a slow and practical close the latter part of last month.

The first two weeks in September, following general rains, gave us one of the best honey flows of the season, finishing supers and setting bees energetically at work rearing brood and gathering pollen. The result is colonies strong in young bees with brood-chambers in excellent condition for good wintering and spring upbuilding.

More Soil Moisture is Needed to Support Good Stands of Sweet Clover.

However, prospects for next season would not seem to inspire unbounded joy. Mother earth is dry and it is becoming increasingly difficult to secure stands of sweet clover as the sub-soil moisture gradually lessens.

A 50-pound average per colony seems a safe estimate for the season which has undoubtedly been the poorest since beekeeping has been carried on in a commercial way in the state. The precaution of carrying over some combs of honey to be given to each colony in the spring seems, under these conditions, to be a paramount need, yet it is not extensively followed.

Out-of-state buyers are offering a nickle for extracted honey and some lots have been sold, but producers are in no particular hurry to sell considering it wise first to see that the local demand is well supplied. Some cut-rate stores that sold 10-pound pails at 69 cents last season have now raised the price to 80 cents.

A private long-distance trucking concern with headquarters near here has been busy of late, I understand, on a schedule between Texas and points in Canada and western states. They have been carrying honey on the trip south.

I had a few colonies of non-producers in my yard this season and in a mad attempt to get something out of them for the year I divided them the second week in September, giving each division a young queen. They have made surprising progress with the help of a slow honey flow, and I believe they are in as good condition for winter as my other colonies —J. F. Norgren, Junius, South Dakota.

MANITOBA.—The past month has shown a steady flow of honey to market, nearly everyone being anxious to cash in at once. Prices are from one to two cents per pound better than last year. A recent canvass of carload and hundred-case producers shows only four full carloads unsold. These will probably be held until March in anticipation of a further increase in prices.

Reports on crops show a great increase in average yield per colony in the North. One man reports 13,000 pounds of honey from 60 packages. Last year from the same number he received only 5000 pounds.

Favorable Weather in September Afforded Opportunity for Bees to Fill Brood Chambers With Late Honey.

We have had delightful weather with fields of sweet clover still white with bloom. Brood-chambers are filled solidly with late gathered stores. We have had only one or two light frosts, about heavy enough to kill the leaves of tender vine crops. It is quite unusual for October to be ushered in under such conditions.

The NRA code on package bees is being studied carefully since the October bee journals arrived. This report came just in time to save the lives of a good many colonies of bees, as the substantial increase in prices will make a number think twice before they use the Cyanogas. If this had been an ordinary year, when frosts come in mid-September, the bees would have been killed before this date. The trouble with deliveries last spring and the fear of some that they might not be able to get package bees next spring have also been factors in delaying the killing until this late date.

The rains of the past month have given sweet clover a fine start and seeds that have lain dormant all through the dry summer have come to life and covered the fields with a carpet of green, making a splendid promise for next year's honey crop.

The past season has shown great activity in beekeeping in this province and has brought out of hiding many old outfits tied up with disease in past years. What happened was something like this: An inspector comes along and finds a number of colonies diseased in an apiary. He destroys those showing disease. The operator of course finds more later, becomes discouraged and kills the apiary and stores the equipment where it remains until some one comes along with conceit enough to undertake to clean up that disease. Our law forbids the sale of such equipment, but this has not been strictly enforced as most inspectors would rather see that equipment filled with bees so they can get at it instead of stored away in hiding places.

We think that this past season has cleaned out a good many disease nests. The combs have been melted into wax and the frames boiled or burned.—L. T. Floyd, Winnipeg, Manitoba.

KANSAS.—Following the extremely hot, dry June, scattered rains in July and August produced a good growth of heartsease (smartweed) in north-central Kansas. A good honey flow from this source was in progress during the first part of September. This was stopped by the rains of September 12 and 13, followed by a drop in temperature to about 60° F.

The rains of the latter part of August and first part of September put the white clover and sweet clover in fine condition for winter. Soil moisture which was so deficient during the early part of the summer has been improved to a point much better than it was a year ago at this time.

The honey exhibit at the Kansas State Fair was a good one, with fewer exhibitors participating this year. The quality of honey exhibited was the best that has been shown for many years.

On the whole, beekeepers in northeast Kansas have produced a normal crop of fine white honey, whereas prospects earlier in the season did not seem favorable. There is a sharp difference in conditions in northeast Kansas as compared with those in south-central. Some beekeepers in south-central Kansas are buying honey to supply their trade. Others are feeding their colonies for winter. Southeastern Kansas had slightly under a normal crop of honey. North-central Kansas has had slightly under a normal crop of good quality honey, with the heartsease honey flow making up a normal total crop.

In Some Portions of the State, Bees Are Short of Stores and Must be Fed if They Are to be Wintered.

Colony conditions are 100 per cent in northeast and north-central Kansas. In the south-central part of the state, conditions are uncertain unless beekeepers feed the bees or leave with them what honey there is on the hives. There is a question in the minds of some as to whether they should sell their colonies and beekeeping equipment and start new next spring, or continue with what they have by feeding to carry them through the winter and spring.

Under the Agricultural Adjustment Act, the question arises as to what the farmer will do in the utilization of his land which he is not allowed to crop to wheat. Later there may be restrictions on the growing of corn. This means that the farmer will utilize his land to some other crop, or summer fallow. In western and central Kansas, the policy of land utilization under the restrictions will be to produce sorghums or head grains, and to summer fallow. In eastern Kansas there will be smaller areas taken from wheat production. In all probability farmers will grow some feed for stock and use sweet clover for pasturage and soil improvement. This will mean pasturage for the bees in the immediate vicinity.—R. L. Parker, Manhattan, Kansas.

TEXAS.—The weather for September through most of Texas was advantageous to the bees. In the cotton section some honey was stored, but over most of the state the bees were unable to store any surplus. As in some of the northern states, September was a hotter and drier month than August. This kept the bees quiet and held fall brood rearing in check. In this part of the world, early brood rearing means the consumption of large amounts of winter stores and the death of many of the field force before honey flows of early spring.

The rains of August followed by general

light rains over most of the state are making conditions ideal for honey plants. All of the hardwood honey plants have made an excellent growth this fall which gives them new wood for bloom in the early spring. There is sufficient moisture in the ground now to bring up the winter annuals.

The Vast Area of the State Makes it Difficult to Estimate General Crop Conditions.

It has long been noted that Texans are reluctant to give an estimate on yields or crop conditions. Two letters received in the same mail this month show definitely why no generalizations can be made in Texas. One came from about five hundred miles to the northeast but still in Texas. The beekeeper made a fervent appeal for information as to how to take care of combs that had been under flood waters for three or four days. The other came from the same distance to the west, and the writer wished to know how to keep his bees alive. All water holes had dried up and the only way to get water to the bees was to haul it some 40 miles. No wonder he wanted to know what the bees' capacity might be for water.

The next day a visitor who is well informed as to bees and beekeepers in Texas told of finding two beekeepers who were unknown to him and whose names do not appear on the lists of beekeepers. One of them was proudly marketing 10 tons of honey, the other six. This all goes to show that predictions as to honey production are rather vague.

On September 1, Mr. S. E. McGregor, who for a number of years has been assistant inspector and also has been an inspector in New York State, resigned to enter commercial beekeeping. Mr. McGregor has all the requirements for a commercial beekeeper, and having had the opportunity to become acquainted with beekeeping conditions not only in this state but others, we predict that he will soon be one of the leading commercial beekeepers in Texas. In his place Mr. C. J. Burgin of Hondo, has been selected as the assistant to Chief Inspector Cecil E. Heard.

Any beekeeper needing the services of the inspectors or information relative to bee diseases should write Dr. F. L. Thomas, State Entomologist, College Station, Texas; or Cecil E. Heard, Chief Inspector, Division of Entomology, College Station, Texas.—H. B. Parks, San Antonio, Texas.

LOUISIANA.—Honeybees are busy now storing honey from goldenrod, thoroughwort, and heartsease. I have just returned from a trip over a large part of the state and found thousands of acres of land covered with fall flowers in full bloom. A part of these flowers, however, are growing in localities where there has been no rain for some time, and, consequently, are not producing nectar. I went through large areas examining the plants closely, and found only a few bees flying among the flowers. In other districts not more than 20 miles away, the plants were secreting nectar and much honey was being stored.

The honey flow over the state is very spotted, and so it has been all of this year. Many producers have not received a pound of surplus, others have made a fair average and some have extracted more than 200 pounds per colony. On the whole, this year's crop will be smaller than for the past 10 years. A half crop perhaps.

The State Produces Honey Varying in Color from Water White to Jet Black.

Louisiana is noted for its many kinds and colors of honey. On my last trip to the northern part of the state, I was shown a sample of honey that was ebony black. This amazed me, and I was greatly puzzled until I was told that, in the locality where this honey was produced, there are many carbon plants in which natural gas is burned. This fuel produces immense clouds of black smoke which settles on plants several miles away which gives the color to the honey. Now, we can boast we have honey from water white to jet black. Take your choice when buying.

It is gratifying to know that honey is advancing slightly in price, some dealers receiving 10 to 15 cents per gallon more this fall than a year ago.

Bees are in fine condition to go through the winter and even in the drouthy districts have filled the supers with bitter weed honey. This is good winter food for bees, but not very pleasant in taste for human consumption.—E. C. Davis, Baton Rouge, La.

NORTH CAROLINA.—There was a light fall honey flow over most of the

state which induced the colonies to raise a good force of young bees to go through the winter. The flow was not heavy enough in many sections to permit the colonies to make any gain in food supply. Rapid brood-rearing has caused a heavy consumption of stores, and some who overestimated the amount of honey they should take at the end of the summer flow, find their colonies now much better supplied with young bees for winter than they are with stores.

Those Who Left an Upper Story of Honey on Each Hive Have Their Colonies in Good Condition for Winter.

However, a great many are using foodchambers and extra hive bodies filled with honey. Where this practice was applied and where the surplus honey was not too closely taken away, the bees are in excellent condition. Taking the state as a whole, the conditions are perhaps about normal.

The spring and summer honey flows were spotted over the state, and were unusual in that far above the average yield was harvested in some of the less favorable honey-producing sections, while the yield was below normal in some of the better producing counties. The crop for the state was perhaps about 85 per cent normal.

The honey is of good quality and has been finding a ready market in the central and western sections of the state, and at fair prices. However, in the Coastal Plain counties some of the smaller beekeepers have been selling their honey at very low prices. Extracted honey in quantity has been selling for $4.00 and $5.00 a hundred pounds, while beautiful comb honey in 10-frame shallow extracting supers has been selling for 5 cents and 6 cents a pound in lots of 50 to 100 supers.

A recent storm passing over the tidewater counties blew hundreds of colonies from their stands. One beekeeper had 163 colonies blown over, and some apiaries were entirely covered with high water. One beekeeper suffering loss stated that he would put in two colonies for every one that was destroyed. Another who has had many colonies destroyed by bears said, "Every time a bear tears up a hive, I start three more just to show the bear he can't outdo me."—C. L. Sams, Raleigh, N. C.

FLORIDA.—Our rainy season here in central Florida is about over. It has little to do with the main honey flows as it comes after the main sources are through for the year, but it does help the growth of the fall flowers. This is essential to wintering, especially where honey was extracted after the palmetto honey flow.

In the northwestern part of the state (tupelo section) we had more rain this summer than in the past two years. This will help wonderfully where bees are moved from river locations to farming sections, as abundant rains insure a heavy growth of the white pusley and other plants. While a surplus from this source is rare, it does build up colonies in fine shape and furnishes winter stores. All colonies left on river locations are weak and some are dead. This was caused by suspension in brood rearing which occurs every year in July and August.

Queens Quit Laying in Midsummer in Some Locations, Which Results in Weak Colonies for Winter.

Colonies are building up now in both northwest and central Florida. The hot summer months seem to be the vacation time for queens. Brood rearing is then at its lowest here in the central part of the state and in the northwestern portion the queens quit entirely in a large portion of the colonies.

We have experienced a fair season as far as getting a honey crop is concerned. The orange honey flow was not up to expectations, but scrub palmetto gave a heavy yield and of fine quality. The yield from cabbage palmetto was light and in some instances a failure. Mangrove was spotted, some locations having a fair yield and others light. This honey is one of the lightest grades produced in this section and makes a fine honey for blending.

All in all, beekeepers in these two sections (and I believe in the state as a whole) could see out if prices would improve. One can see evidence everywhere of honey being sold at ruinous prices. In fact, in some cases it has been sold to grocers so low that it is impossible to see where the selling cost comes, to say nothing about the cost of producing it. We hope that this is being done by small producers with only a limited amount of honey which will soon be sold. Then we hope prices will improve.—N. Forehand, DeLand, Florida.

ALABAMA.—Another crop failure has been chalked up by the beekeepers of the black belt of Alabama. Bees stored some honey from clover but not enough for surplus. Boneset has yielded unusually well, assuring the package shippers of plenty of winter stores. Aster is just starting to bloom but rain is needed to make it produce.

On September 29 the package shippers of Alabama, Mississippi and Louisiana met in Montgomery to re-write their code and get it in condition for a final hearing. The shippers have asked for a final hearing in late October. The outstanding feature of this meeting and all others along this line has been the splendid spirit of co-operation shown by the several states. This meeting was addressed by Mr. S. P. Storrs, Commissioner of Agriculture of Alabama. He pledged the co-operation of the Department of Agriculture and pointed to the fact that the package and queen business was handled direct from the producer to consumer. Having no middlemen to consider, it will be easier to work out a satisfactory code.

The demand for queens was heavier in September than in July or August. Most breeders sold out and are having to return money on late orders. It is hard to tell what caused this condition. The demand is usually heaviest in August and tapers off early in September.

Inquiries and orders for packages for next season have begun to come in, and prospects are that business will be good in 1934. During the decline in prices some buyers of packages profited by waiting till the last moment to place their orders as prices were reduced during the season. During the past season the demand was much greater than the supply, and those who ordered late in the season did not get their bees or had to take much later shipments than they wanted. Evidently some of these are determined to be on time this year.—J. M. Cutts, Montgomery, Alabama.

GEORGIA.—The bulk of the honey produced here is packed with comb and sold as chunk honey. Various sized small retail containers are used, such as 10-ounce and 16-ounce jars, 2½-pound cans, and 5-lb. pails. Chunk honey can be sold far more readily than extracted in the Southeast. At the present time it nets the producers 7½ cents a pound, while best grades of extracted net only 5 cents.

Containers are first filled with comb cut in as large pieces as they will hold. Fragments or small pieces are never used. The comb must be cut smooth and placed perpendicular so that when the cap is removed by the consumer the comb will be attractive and show no signs of imperfect packing.

The average beekeeper endeavors to produce not less than one-third of his crop in regular shallow-extracting frames (cut honey) using full sheets of foundation. As soon as the honey is finished, it is taken from the bees in order that it shall not become travel stained. It is placed in a dry tight room built above ground, and well lined on the inside with wide strips of heavy wrapping paper. The supers are stacked in the room just as taken from the bees with short blocks placed at the corners, giving plenty of ventilation between. If the packing is done carefully the ends and sides can touch, thus greatly economizing space.

Every two weeks during summer and early fall, two pounds of sulphur is burned in the room, which kills and keeps out all insects. During the winter months, a small oil heater can be placed in the room during the time that packing is done, to keep the comb elastic, for it can not be handled or cut when it is brittle.

Beekeepers have experienced great trouble this year in the production of cut honey. As a result, not more than 50 per cent of the large producers have sufficient cut honey to supply their regular trade. They are now out buying comb honey wherever it is obtainable.

At present (October 1) brood rearing is normal. Pollen and some nectar are coming in. Mexican clover, which grows extensively on cultivated land, is yielding some surplus. If honey is not removed too closely, bees will go into winter quarters in normal condition.—J. J. Wilder, Waycross, Ga.

SOUTHERN INDIANA. — This has been a very peculiar season. During April and May we had a downpour of rain every day. Then the weather turned hot and dry with no rainfall so the clover crop was a complete failure. Later rains brought on the fall flowers so the crop from Spanish needles, smartweed and goldenrod was very good. Now, October 4, there is a good flow from asters. Colonies, as a rule, are in excellent condition for winter with plenty of young bees and stores.

Bakers Are Using Increasing Quantities of Honey and Prospects Are Good for a Much Greater Increase.

Honey sales have been rather slow, but I can notice a decided improvement in the market. Whether this is a result of an increased demand or on account of the short crop is hard to say. Bakers are buying in large quantities. Credit for this is due mainly to the work of the American Honey Institute. If the work can be carried forward till all bakers use honey in bread making, they will take all the honey we can produce. One large baker said to me, "Honey makes superior bread and there is no doubt about it. All bakers will be compelled to use honey or be put out of business." I hope he knows.

Beekeepers have been discouraged for the past few years but there seems to be renewed interest in bees in general. I am having more visitors and note more enthusiasm concerning beekeeping. One visiting beekeeper said to me: "I run a farm and have 200 colonies of bees. I do not know what I would have done without the bees. To be sure, prices of honey have been low; but I peddled out mine during the winter which gave me something to do, and I am a little ahead of the game. I ran behind on the rest of the farm."

Comb honey has been unprofitable as a rule, yet one man who knows how to produce comb honey white as snow and who gets the cells capped clear to the wood, has been making a good profit every year. He has his honey sold in advance at a good figure. Yes, there is decidedly a bright side to beekeeping. The honey crop is surer than any other farm crop. Especially is this true when one is in a locality where there are two honey flows. Seldom both fail.—Jay Smith, Vincennes, Indiana.

MINNESOTA.—At a recent meeting of the officers and board of directors of the Minnesota Beekeepers' Association, it was decided to merge the program of the Minnesota Beekeepers' Association with that of the American Honey Producers' League and the American Honey Institute which will be held in Minneapolis in February. This was done in order to stimulate a larger attendance at the national meetings, since many Minnesota beekeepers would not feel like attending two different meetings during the winter, but would make a special effort to come into the combined conventions. A business session of the Minnesota Beekeepers' Association will be held on Tuesday evening, December 5, at 7 p. m., in Minneapolis to transact necessary business, and particularly to complete plans for the meetings of the League and Institute.

For the past five years a short course in beekeeping has been given at the University of Minnesota in the fall during the same week that the state association met. This short course has been uniformly well attended, some of the sessions having as many as 75 or 80 people present. Due to a curtailment of appropriations for all short course work, the beekeepers' short course will not be given this fall. However, special work in beekeeping will be offered during the annual Farmers' and Homemakers' Course at University Farm, January 15 to 20.

On October 10 a group of about 25 or 30 beekeepers and bottlers from Iowa, Minnesota and North Dakota met at the Nicollet Hotel in Minneapolis, preliminary to the meeting called by President Gwin of the American Honey Producers' League in Chicago on October 13 and 14. Six of those present announced their intention of attending the Chicago meeting. Much interest was shown in the discussion of several topics which seemed likely to be brought up at Chicago, honey marketing being uppermost in the minds of all.

The honey crop in most parts of Minnesota for 1933 was a disappointment, although in some sections as in the region of the Twin Cities it was much better than usual. In the western part of the state, particularly in the Red River Valley, the combination of drouth and hot weather cut down the crop enormously.

Many Minnesota beekeepers are planning on wintering out of doors this season. Different types of insulating material are being used, but some kind of waterproof paper for the outside seems to meet with almost universal favor.

The fall has been unusually mild. There was no killing frost in the region of the Twin Cities until the night of October 12, which is several weeks later than the average date for the first killing frost. There has been a heavy consumption of stores during the latter part of September and first of October, and beekeepers should take particular note to make sure that there are sufficient stores for winter.—M. C. Tanquary, St. Paul, Minnesota.

ONTARIO.—During the first week of September, we had unusually warm weather here in York County and a little buckwheat honey was stored. This is something that does not happen often. We rarely have any honey flow after August is past. Following this warm spell, we had a very early frost on the morning of September 12, when thousands of acres of late buckwheat were damaged and in many cases ruined. Since then the weather has been cooler than usual, and it would be safe to say that not a pound of nectar has been gathered since the freeze.

In the last issue of this journal I mentioned that colonies given no supers in localities where there was but little buckwheat were heavy in brood-chambers and very few needed any feeding. Much to our surprise—and a pleasant surprise it was—when we came to examine brood-chambers—where the honey flow from buckwheat had been normal, and where many colonies had two supers of honey but recently removed, these brood-chambers were also very heavy. Last year all these colonies were light when the supers were removed and in two or three cases the bees actually starved early in the fall before we knew their condition. Can anyone explain why there is such a difference this year? The only explanation I can offer is that the season was longer than usual and queens stopped laying earlier than usual in August allowing bees to fill up the brood-chamber with honey. This would be a good explanation if all were old queens, but we find just the same condition in brood-chambers where young queens had been reared early in the season.

Whatever the reason, it means much less feeding than usual as our average for feeding was less than 10 pounds of sugar per colony, and I believe that the bees are heavier in stores than they have been for some years past. Of course I realize that confessing to feeding even that much sugar is something that many will say I should be ashamed of, but after what I said in the last issue, this confession will not be surprising to my readers.

Last year we left a number of shallow supers on for winter stores, but recently I have been looking over the bees, and, if I am correct, only four colonies have supers on for this winter. We find two stories to be too big a brood-chamber for our short clover honey flow, followed by buckwheat, and to lift the second story off every time we examine a brood-chamber during the summer season—well, to us it seems just a bit too much extra work and a lot of heaving of filled supers for nothing.

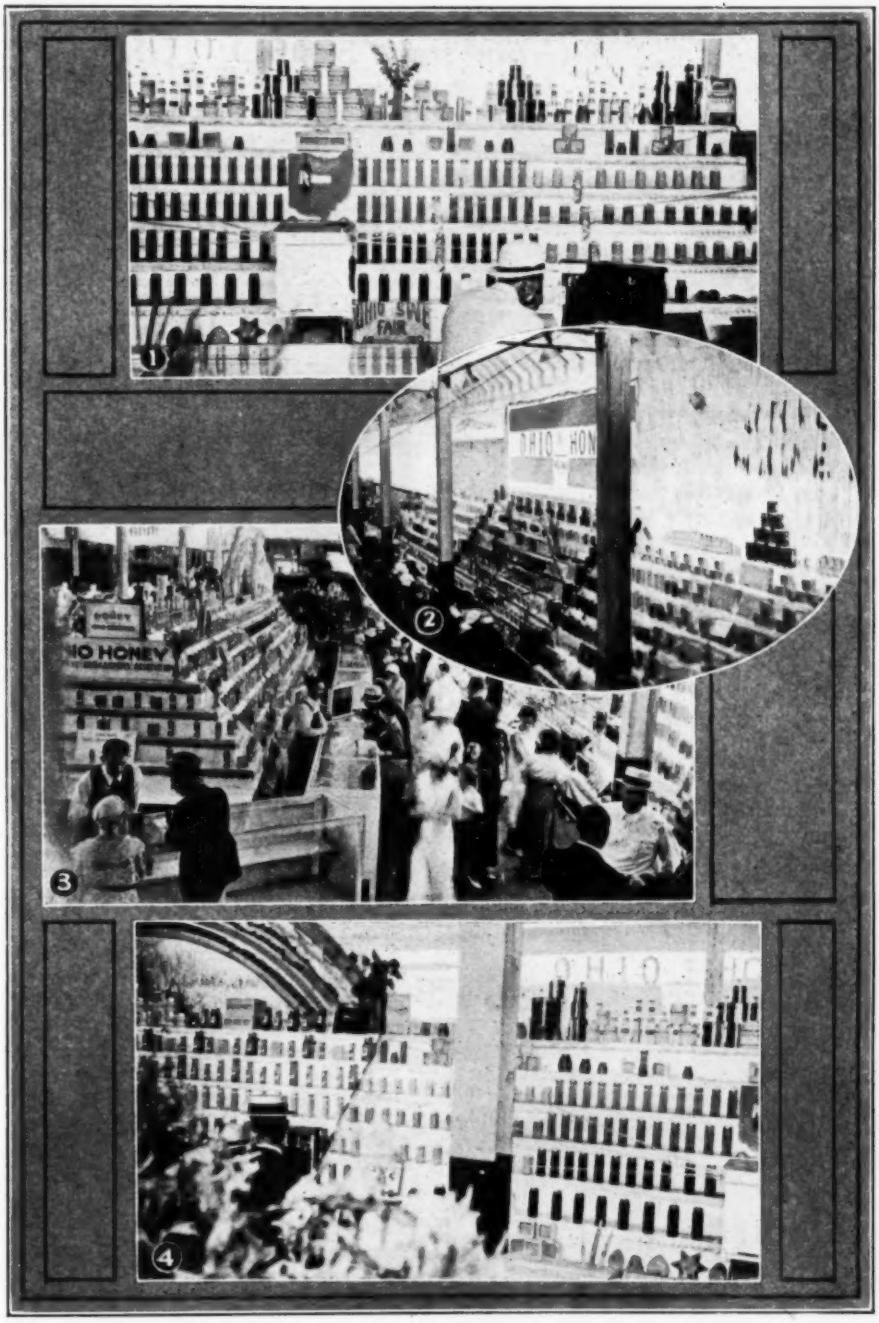
Export Prices Are Above Domestic Prices On Account of the High Price of the English Pound.

Honey has been moving at a normal rate, and indications are that before many weeks elapse, there will be a sharp advance in domestic prices for honey. The reason is that export prices lately are away above local prices, owing to the high price of the pound sterling. While the price of sterling is not assured at present levels, yet a minimum of $4.60 to the pound is guaranteed by the Canadian government. While this is a lot lower than the present price, it is so much higher than the prevailing rate of last year, that fair prices for export seem to be assured.

With light showers over much of the country during the past three weeks or more, the clover situation for next year is more clarified. Wherever the drouth was not severe enough actually to kill off the young plants, prospects seem to be fair for next year. But in some cases (and at least two of our apiaries are in such locations) all clover seeded last spring is dead and the ground in most cases has been plowed. In these localities the only clover for next year will be fields of alfalfa of former year's seeding.

Work for the season is well advanced and bees will be ready for winter quite a bit earlier than usual, at least that is the case in our locality. With little work in sight for the winter, I am glad for the liking that we have for hunting. While there is little if any income from this recreation, it is a great conditioner for anyone with little to do, if he happens to be enough of a Nimrod to make the exercise enjoyable. While our locality was quite bare of game for many years, lately the large European hares have drifted in.

By the time this is in print, practically all work for 1933 will be past so far as the bees are concerned. My earnest wish is that every beekeeper, no matter what his experience may have been for the year past, may be buoyed up with hope for still better things for 1934. After all, if we should give up hope, what a dreary old world this would be!—J. L. Byer, Markham, Ontario.



HONEY EXHIBITS AT THE OHIO STATE FAIR.

1. Part of exhibit by I. P. Vandevier, Medina, Ohio. 2. Exhibits from left to right: H. D. Hyatt, Columbus, Ohio; E. T. Keil, Mars, Pennsylvania, apiaries near Findlay, Ohio; Geo. Thompson, Fremont, Ohio. 3. Part of honey exhibit by the Ohio State Beekeepers' Association, where over $100 worth of honey was sold, and over 7000 honey recipes were given out during fair week. 4. Exhibits from left to right: Carl Hurst & Sons, Williamsport, Ohio, who won the sweepstake prize, and a part of the exhibit shown in (1) above.

Heads of Grain from Different Fields

Insulated Solar Wax Extractor

On page 557 in the September issue of Gleanings in Bee Culture, Mr. Philbrook seems to have the right idea as to a solar wax extractor. Mine is somewhat similar in action. It is mounted on an iron projecting from the center of the box and bolted to an eyebolt. The eyebolt projects into a vertical hole in the top of a post. The sheet iron pan is insulated on four sides and the back by an inch or more of sawdust. I have known honey to boil in it.—Robert S. Benson, West Paris, Maine.

Bees Found Way Home After Moving

April 18, I rented all of my bees to two large orchards for pollination. I returned them by auto and truck on May 1. Everything worked fine; didn't see where they were bothered much, although a few Italian bees came back home the next day after moving a distance of over three or four miles. Can you beat that! The bees stored lots of nectar from the apple blossoms, and prepared to swarm before I brought them from the orchard. A few colonies stored a little surplus.—Frank Derrenbacker, Wealthia, Virginia.

Old Queen Deserts Hive

Among my experiences and observations with bees are two of which I had never read or heard. The first was to see a young queen on the back of the old one biting her wings off. Later one morning as I was looking at the entrance of a certain hive I saw a queen fly out. She went to a nearby tree where I caught her. She was an old one and I suppose rather than meet the fate of the other one she took to the air. I let her go and she flew away. On examination, another queen was found in the hive.—E. J. Babb, Pasadena, Calif.

A Homemade Feeder

For those who desire a good homemade feeder at practically no extra cost, I recommend one which I have used. Secure an empty cigar box, remove the front side, then with the lid in closed position while the box was all together, nail through the sides into the lid with the small nails taken from the front piece. With a small saw or knife, cut out a circular hole in the lid large enough to enable the neck of a jar to set in snugly. To use, place the box with the open side over the hive entrance with some kind of foundation to set it on as shown in the illustration, as the porch of the hive is not large enough to support it. Now set the jar containing sugar syrup, and with a perforated lid,

A homemade feeder on the Boardman principle.

upside down into the hole in the lid of the box, so that the shoulder of the jar rests snugly against the edge of the hole. Because of the abundance of room in getting at the syrup the bees will consume, and carry in, a great amount in a short time.—Clarence Tontz, Crescent, Oklahoma.

Why Some Are Sensitive to Honey

After reading the article about honey sensitization in the August issue of Gleanings in Bee Culture, I am sure that there is another cause of heartburn and gastric indigestion after eating honey. Recently I gave to some young friends of mine a jar of honey jelly. The mother of these youngsters tried it too and found that it agreed with her, while she could not eat honey. What was the reason? She is sick and has not taken much water internally. I have eaten plenty of honey and it has always agreed with me except once. That time I had not used as much of this indispensi-

ble drink as I should. The result was heartburn. Drinking water alleviated it immediately. Honey is deliquescent, so use plenty of water inside and it does not hurt the outside. The honey jelly mentioned above contained about 1 quart of water to seven pounds of honey.—A. H. Sterz, Morrisville, Pa.

Honey for Baby's Milk

Few people realize the value of honey as a food. We are too apt to think of it as a luxury that we can do without. Our baby was not doing well; she was troubled with gas and constipation and did not gain as she should. We began to use honey to sweeten her milk instead of sugar; almost at once her digestion improved and she began to gain in weight. This is her picture taken at the age of four months, six weeks after we began the use of honey. Milk and honey! The foods that the promised land abounded in. Both are great health insurance. Let us eat more of them.—Mrs. C. Timmerman, Cortland, N. Y.

After substituting honey for sugar in this baby's milk she improved and began to gain in weight.

Advertising Honey with Honey

A good advertisement must do each of three things: compel attention, rouse interest, and create the desire to have. It must make sales or it falls short of its purpose.

The first time the car was driven through the streets, people stopped in the street, on the sidewalk, and turned around to look. How they laughed! They still do. And when the car is stopped they come to investigate and chuckle, "Now, that isn't such a bad idea." The honey looks so pretty and tempting, sparkling in the shining glass that, more often than not, out comes the old pocketbook and off goes the honey. It is a good idea to get folks to laugh—sales are made most readily when people are in a good humor.

Jars of sparkling honey are held in clamps fastened to a piece of webbing.

The jars are held in clamps that are securely fastened to a stout piece of webbing. This webbing is in turn fastened to the car at the bottom by means of bolts.

'Tis truly said that people don't buy honey simply because they never think of it. So, when they see it, they haven't any excuse.—Mrs. Benj. Nielsen, Aurora, Nebr.

One corner of a modern apiary arranged as in the days of Vergil.

Food Department

Malitta D. Fischer

Honey on the Air

For the past year or more there has been considerable discussion on comparative values of radio and newspaper advertising. Many stands have been taken. Most discussions indicate that radio advertising starts or creates an interest, but that it takes a follow-up of newspaper advertising to actually clinch the deal or stimulate sales. At the American Home Economics Convention held last June, a Round Table Discussion was held in which important radio leaders from all sections of the country participated. This discussion brought out the following points:

Too many programs now given via the radio insult the intelligence of the average audience. (That's where beekeepers have little to worry about because the average audience knows so little about bees and honey.) Too many talks lack character and interest. (Bees and honey talks do not.) Voice is a decided factor. The future of the home economist on the radio is very bright. Speakers must be friendly without being patronizing. (Bee-and-honey lecturers usually are friendly and do not know how to be patronizing.) Recipes are popular over the radio but the radio is rather an expensive way to get them to the consumer.

Most Effective Type of Broadcasts

An interesting report was given by the Iowa State College radio specialists. They had kept figures on the fan mail they had received from various types of broadcasts such as the lecture type, dialogue type, and musical types of programs. They found the dialogue type mixed with a bit of the lecture style was most popular. Their broadcast under the title, "Renovizing for the Silver Wedding," given in 20 chapters exceeded all other programs in popularity. In other words they took 20 radio periods to get across everything that was necessary to get ready for the silver wedding and some of those periods were devoted to the dialogue type and some to the lecture type. Perhaps it might have been a dialogue between the children on what they were to do to help get ready for the silver wedding. Of course, the climax was the silver wedding itself. Through these 20 broadcasts the home economist was able to weave her story of interior decorating, food, and menus; the plumbing specialist, carpenter, landscape gardener, etc., all had their message woven in, too. It was a wonderful success.

I mention this to show that more and more local talent or the local type is being called upon to give broadcasts. Sometimes the continuity for the broadcast is written by an entirely different person, sometimes by several persons. The one giving the broadcast is the one with the voice personality. Many of our beekeeping friends have voice personality, but don't know it. Beekeepers are so interested in their bees that when they broadcast they naturally radiate sincerity and it is that sincerity that wins the radio audience. It is not difficult to be friendly to one's air audience without being patronizing when the subject to be discussed is so interesting and fascinating as the story of bees and honey.

An Appeal for Help

We need more bee and honey stories on the air; readers, you have not scratched the surface in this respect. Aren't we fortunate that our story is so interesting that radio directors ask for bee-and-honey broadcasts? We have many invitations. Thus thousands and thousands of dollars of radio advertising are donated to the cause. Rarely do beekeepers pay for radio time. The larger bottlers perhaps do, for they are pushing a trademarked product, but the hundreds of talks on bees and honey that have been given the past year have been given on complimentary periods.

Unfortunately many broadcasts on bees are given without boosting honey. You have read in the beginning of the article that the round table discussion brought out that radio was an expensive way to get recipes to the homemaker; that is, many recipes. An occasional recipe is all right. Therefore, in every bee-and-honey broadcast that is given, some thought should be passed on to the audience that tested recipes are now available to every homemaker. Make an agreement with the local station that the requests

are to come to the station and in turn forwarded to you, and you will see that the requests are filled. Work out any sort of an arrangement on this that you want, but just be sure that the information on the availability of tested recipes for using honey is included.

In almost every community now of any size, local broadcasting stations exist. Every county beekeepers' association could get the co-operation of these stations for at least one talk during National Honey Week. That is such a splendid time to secure radio co-operation. If you have not been able to get co-operation from your radio station before, I feel sure you will get it for National Honey Week. There is little time left for this year's Honey Week but try it anyhow. Whether you put it through this year or not, just let the experience stimulate you to start early enough to have local radio activity for the 1934 National Honey Week.

Broadcasts Now Scheduled

American Honey Institute has honey broadcasts available. State colleges have more. So that you may know what a splendid piece of radio work some of the colleges are doing this year, I pass on their verbatim reports.

Dr. Phillips of Cornell University writes:

Professor Rea and I plan to give at least five radio talks that week from the Cornell station, and also to furnish material for the 17 stations of this state to which the college furnishes material for fillers on programs. Perhaps we can arrange for actual talks over other stations, if we can get funds to make the trips to them. Professor Rea has cancelled his engagements for that week so that he can stay here for his share of the talks.

Professor Rea two weeks later reported:

Dr. Phillips has told you about our broadcasting for National Honey Week. My subjects are: November 16, "How Bees Make Honey"; November 17, "Hot Cakes and Honey"; November 18, "Putting the 4-H Bees to Bed." The above subjects are only to catch the attention of the listeners. In addition to the above, I am to supply two or three five-minute talks for syndicating to, I think, sixteen stations in New York State. The above talks will be given from Station WESG at Ithaca, N. Y. There is a chance that I may be in Schenectady for a beekeepers' meeting on November 14; if I am, I expect to broadcast over Station WGY and, of course, will use a honey subject.

Professor F. B. Paddock of Iowa writes:

During National Honey Week, the Homemaker's Hour over WOI, directed by Mrs. Henry Ness, is to turn over the entire week for a speaker each day. This period is usually from 10:00 to 10:30 over WOI, although our speakers will probably not take more than 20 minutes of the period. Miss Brown is to appear on Monday, Dr. Nelson will appear on Tuesday and probably take the entire time summing up the contest which has been held in this state, giving the results of her tests which are now being conducted in an effort to find the outstanding recipes submitted by Iowa producers. The speaker for Wednesday has not yet been obtained, but we will have one. For Thursday and Friday, Frank Pellett will appear on the hour or at least a large portion of the time. I feel very happy over this co-operation with the Homemaker's Hour. On Monday, at my period over WOI I expect to devote the entire time to the program for honey week, calling the attention of our listeners to the various national and state programs, so keep me informed as to what may be available. In addition to this, we will have very good publicity as was given last year throughout our extension editor.

R. B. Richmond, Colorado, writes:

We have asked Dr. A. P Sturtevant of the United States Bee Culture Field Station at Laramie, to appear on this broadcast over KOA, Denver, at 12:30 Rocky Mountain Standard time, on November 13.

Mrs. Julia Kiene, Editor, Women's Department, Capper's Farmer, Topeka, Kansas, writes:

I will be very glad to give some publicity to honey week, November 13 to 18. I broadcast twice a week and will mention it over the radio and give honey recipes at that time.

Mrs. Laura Judd Bryant of the Union Gas & Electric Company, Cincinnati, Ohio, is including honey in her homemakers' broadcasts during National Honey Week and also in three demonstrations given that week. Mrs. Luela Fisher of the Iroquois Gas Company, Buffalo, New York, is also mentioning it in her broadcasts that week and including it in her demonstrations.

These are a few of the reports being received in regard to honey on the air for the 1933 National Honey Week. Hundreds more such reports could be coming in if our producers and packers in all parts of the honey producing areas were awake to the possibilities and benefits of having honey included in the local radio programs. Think of all the household chat directors who welcome honey copy—it's different, it stimulates fan mail (that's what radio stations want—lots of good fan mail), it's universal in its fascination.

A few notes must be given on the national radio programs to be given. Last year there were six honey feature broadcasts during National Honey Week on the national network systems. The cost of the time on the national network would have been around $12,000 had we been required to purchase the time. Honey was mentioned several hundred times over the national network system in these six broadcasts. This year, not all details are in at the time of this writing but the following reports have come:

Dr. Henry G. Knight, Chief of Bureau of Chemistry and Soils, writes:

We are very glad to participate in the 1933 National Honey Week, and a suitable radio broadcast is now being prepared. We are ar-

ranging to send you the title of this broadcast.

Later, Dr. Paine of the same department reported:

We have been alloted five minutes, from 12:54 to 12:59 p. m., Tuesday, Nov. 14, in the "Farm and Home Hour" program of this department. Dr. C. A. Browne, Assistant Chief of the Bureau of Chemistry and Soils, will give the radio broadcast at that time under the title, "Chemists Seek New Uses for Honey." As you no doubt know, Dr. Browne is well known throughout the United States as the author of Bureau of Chemistry Bulletin No. 110, "Chemical Analysis and Composition of American Honeys," which is the most comprehensive treatise on honey from a chemical standpoint which has ever been prepared in this country.

Miss Baker, who gives the cooking programs for the Rumford Company, will give a talk on honey during National Honey Week. This talk is entitled "With Honey, Molasses and Maple Syrup." The schedule for her broadcast follows:

WEEI, Boston, Monday and Thursday, 10:45 a. m.; WTAG, Worcester, Monday and Thursday, 11:00 a. m.; WCSH, Portland, Monday and Thursday, 11:00 a. m.; WOR, Newark, N. J., Monday and Thursday, 11:15 a. m.; WJSV, Washinton, D. C., Monday and Thursday, 11:15 a. m.; WCAU, Philadelphia, Monday and Thursday, 11:15 a. m.; WRVA, Richmond, Va., Monday and Thursday, 11:00 a. m.; WIOD, Miami, Fla., Monday and Thursday, 11:00 a. m.; WTOC, Savannah, Ga., Monday and Thursday, 11:00 a. m.; WSFA, Montgomery, Ala., Tuesday and Friday, 11:00 a. m.; WODX, Mobile, Ala., Monday and Thursday, 11:00 a. m.; KTBS, Shreveport, La., Monday and Thursday, 11:00 a. m.; WREC, Memphis, Tenn., Monday and Thursday, 11:00 a. m.; WBBM, Chicago, Ill., Monday and Thursday, 10:15 a. m.; WJR, Detroit, Mich., Monday and Thursday, 11:00 a. m.; KFAB, Lincoln, Neb., Monday and Thursday, 11:15 a. m.; WGAR, Cleveland, Ohio, Monday and Thursday, 11:00 a. m.; KWK, St. Louis, Mo., Monday and Thursday, 11:15 a. m.; KPRC, Houston, Texas, Monday and Thursday, 11:00 a. m.; KPO, San Francisco, Tuesday and Friday, 10:15 a. m.; KMED, Medford, Oregon, Tuesday and Friday, 10:15 a. m.; WJAR, Providence, R. I., Monday and Thursday, 11:00 a. m.; WDRC, Hartford, Conn., Monday and Friday, 10:45 a. m.; WBEN, Buffalo, Monday and Thursday, 11:00 a. m.; WGY, Schenectady, Monday and Thursday, 11:00 a. m.; WFBR, Baltimore, Md., Monday and Thursday, 11:00 a. m.; WCAE, Pittsburgh, Pa., Monday and Thursday, 11:00 a. m.; WRUF, Gainesville, Fla., Monday and Thursday, 11:00 a. m.; WSB, Atlanta, Ga., Monday and Thursday, 10:00 a. m; WBT, Charlotte, N C, Monday and Thursday, 11:15 a. m.; WAPI, Birmingham, Ala., Monday and Thursday, 11:00 a. m.; WDSU, New Orleans, La., Monday and Thursday, 11:00 a. m.; WJDX, Jackson, Miss., Tuesday and Friday, 4:00 p. m.; WLAC, Nashville, Tenn., Monday and Thursday, 11:00 a. m.; WOC-WHO, Des Moines, Ia., Monday and Thursday, 11:00 a. m.; KSTP, Minneapolis, Minn., Monday and Thursday, 11:00 a. m.; WLW, Cincinnati, Ohio, Monday and Thursday, 11:00 a. m.; KMBC, Kansas City, Mo., Monday and Thursday, 11:00 a. m.; KRLD, Dallas, Texas, Monday and Thursday, 10:45 a. m.; KFWB, Los Angeles, Cal., Monday and Thursday, 11:00 a. m.; KGW, Portland, Oregon, Tuesday and Friday, 10:15 a. m.

Copy for Newspapers and Radio Broadcasts

Remember that many honey stories are to be included in newspapers about the country, and, if a combination program of both honey on the air and honey on the press is better than just one or the other, you should do your share by seeing that both these fields of advertising are contacted in your own locality. Honey broadcasts are available and also honey copy for newspapers. I have yet to find the home page editor of a newspaper who has not welcomed the set for her files or the household chat director of any radio station who has not been grateful for her set of honey broadcasts. American Honey Institute sends them to you at cost. Write for suggestions and prices. Perhaps your household chat director will not use them for this year's National Honey Week, but how do you know she will not work some of the copy in some other time during the year? Whenever she uses it, it will boost honey. Let's not miss any opportunity.

TOLD BY THE JAY

(Continued from page 677.)

days, but I think that was what I had. She said:

"Do you think so? I do not for we have everything the human heart could ask for that is really worth having. Look at those five fine children. Could the wealth of the world buy one of them? No, not one of their little fingers. We have health, we have enough to eat and to wear and the tarred paper roof keeps out the rain. Now really can you name anything else that would increase our happiness?"

I was surprised for I had never heard such philosophy. That visit with those fine people left an impression on my life I shall never forget. When I left I offered them my remaining 50 cents which was emphatically refused. Remember, it is not the things we have but the things we appreciate that count.

Back in the early colonial days, they had no money and there was no such thing as unemployment. The women folks were kept busy carding and spinning the yarn and the men were kept busy raising the small crop, splitting wood for the fireplace and supplying meat. They pounded up their corn meal, and for dinner had johnny cake and venison. And for their Thanksgiving dinner they had wild turkey. They did not have automobiles and could not travel 75 miles per hour. They were content to travel behind an old ox team, and three miles per hour was the speed limit. Were they happy? No doubt some were and some were not—the same as they are today for "The Kingdom of

(Continued on page 701.)

Gleaned by Asking

Geo. S. Demuth

Feeding Sugar to Produce Honey

Question.—Is it desirable and profitable to feed sugar syrup to make honey? Will a pound of sugar make a pound of honey? Is the quality of such honey equal to that which bees make from other sources? What are the objections, if any, to feeding sugar syrup for this purpose?—Louis E. Smith, Massachusetts.

Answer.—It would be illegal to sell such a product as honey, and any one doing so would be liable to large fines. Even if it were legal to sell it as honey, it would be neither desirable nor profitable. In fact, it would result in financial loss. Feeding a pound of sugar does not result in a pound being stored in the combs. When sugar syrup is fed in the fall after brood rearing has ceased and the activities of the hive have been greatly reduced, feeding a pound of sugar dissolved in half a pound of water results in about one pound of syrup stored in the combs; but when sugar syrup is fed to the bees during the active season when extensive brood rearing is in progress the bees consume about half of the weight of the syrup fed, thus making it necessary in many cases to feed two pounds of sugar to have a pound of the well-ripened syrup stored in the combs. The quality of the stored sugar syrup would by no means compare with the quality of a good grade of honey. In fact, it is sugar syrup still, although it may be partially inverted by the bees. It lacks the honey flavor. Therefore, the chief objections to such a procedure are, that it would be illegal, unprofitable, and deceptive. Of course, if the product were sold as sugar syrup that has been fed to the bees and deposited in combs, not as honey, it would be legal to sell it (if a buyer could be found) and there would be no deception, but it would be an unprofitable procedure.

Feeding Syrup Warm or Cold

Question.—Should liquid feed be given to the bees warm both when feeding in the spring to stimulate brood rearing and when feeding in the fall to supply winter stores?—Iver C. Andersen, Minnesota.

Answer.—The syrup is taken more readily if it is warm when fed, especially when the weather is cool. In spring feeding, the warmth of the syrup should help in the maintenance of brood-rearing temperature in addition to facilitating the handling of the syrup. When feeding in the fall, some prefer to feed cold syrup, especially if fed in out-apiaries. When fed cold, the process of inversion is evidently carried a little further because of slower handling by the bees, so there is less danger of granulation in the early part of winter.

Sugar Syrup Mixed with Honey

Question.—When sugar syrup is fed to colonies which have full-depth food-chambers, is there danger of it being mixed with next season's surplus honey?—Carl N. Holcomb, New York.

Answer.—There is but little if any danger of any of the sugar syrup fed to bees in the fall ever being carried into the supers. Fall feeding to supply winter stores is usually done in October or early November after brood rearing has ceased or has been so greatly reduced that the syrup is stored where it will be used first. If any should be left in the spring, it is usually used for early brood rearing. When syrup is fed to stimulate brood rearing in the spring, it is fed only about as fast as the bees consume it, therefore, none is stored. As a rule, it is not advisable to extract the honey from the food-chamber unless the brood-chamber is filled almost solid with honey.

Fall Honey for Winter Stores

Question.—I gave my bees plenty of clover honey so they will not be short of stores for winter, but they stored some nectar from fall flowers and I suppose they will use it first. Is it necessary to feed sugar syrup before packing for winter under these conditions?—Owen L. Clark, Michigan.

Answer.—If the colonies stored only a small amount of fall honey, this may not do any harm, since it may be used before the bees have had their last cleansing flight. Also, much depends upon the character of the winter. If the bees can fly at intervals every two or three weeks, the fall honey may do no harm. Not all fall honey is injurious to bees that are confined in their hives during winter. Another factor is in the strength of the colonies. If they are quite strong, they apparently consume less per bee, and, therefore, can stand a longer confinement without a cleansing flight than if the colony is weak or medium sized. Feeding each colony 10 pounds of sugar syrup now would eliminate any difficulty from poor stores. The tendency in recent years is more and more in the direction of wintering on honey stores even though they may not be the best, thus taking a chance on the bees having some cleansing flights during the winter, then, if winter loss occurs, restocking the hives with package bees in the spring.

Honey in Automobile Radiators

Question.—What is the correct proportion for mixing honey and water to make an anti-freeze solution for automobile radiators? I have some cheap maple syrup. Is it suitable for this purpose?—C. P. Brown, New York.

Answer.—Some have used successfully equal parts by volume of honey and water for ordinary winter temperatures. However, such a mixture does not circulate freely when starting in cold weather. It is better, therefore, to thin it with alcohol. A solution made of equal parts by volume of honey, alcohol, and water, makes quite a satisfactory non-freezing solution provided all connections are tight. The presence of honey in such a solution not only helps to depress the freezing point but also prevents the rapid evaporation of alcohol so that it is not often necessary to add alcohol during the winter. A good way to make a solution is to use the proportion of alcohol and water recommended for your locality, then add enough honey to hold down evaporation. Maple syrup would not be suitable for this purpose, since the sugar of maple syrup (sucrose) does not depress the freezing point nearly as much as does honey.

Uniting Bees from Diseased Colonies

Question.—Is it safe to unite the bees from a colony having American foulbrood direct with a healthy colony at this time of year after brood rearing has ceased?—S. B. Baldwin, Missouri.

Answer.—Theoretically, this should be a safe procedure, the theory being that the disease is not transmitted because there are no larvae in the hive to be fed and should not be for several months. In the meantime, it is supposed that any germs of the disease which the bees may have carried with them from the diseased colony will have disappeared. On the same theory, diseased colonies are sometimes treated in the fall after brood rearing has ceased by shaking the bees into a clean hive containing frames filled solid with honey, although to do this during the summer would result in transmitting the disease in practically every case. In practice, trying to save bees from diseased colonies in the fall is usually disappointing especially if the colony was badly diseased since most of the bees are too old to survive the winter. Therefore, it is usually more profitable to kill such colonies instead of going to the expense of trying to winter them.

Honeybees Not Native in America

Question.—Is it true that the honeybee was not native in this country?—Florence L. Page, Ohio.

Answer.—Authorities are pretty well agreed that the honeybee was not native in America. There were related species in Mexico and Central America but so far as is known, the wild honeybees of North America came from those introduced from Europe by the early settlers. It is said that the Indians named the honeybees "the white man's fly." This is usually considered as evidence that the honeybee is not native of North America.

Short Courses in Bee Culture

Question.—Where could I find handiest a good place to study bee culture for a month or two?—Mrs. M. M. Odell, West Virginia.

Answer.—Quite a number of the state agricultural colleges offer short courses on beekeeping some time during the winter, and many of them offer regular courses. Also, some offer correspondence courses. By writing to the agricultural colleges in several nearby states, you can no doubt find where a suitable course is being offered. A table on page 293, in the May, 1933, issue of this magazine shows which agricultural colleges offer regular courses in beekeeping.

Where Bottom Packing Is Most Needed

Question.—Do you advise having the bottom of double-walled hives packed for conditions in southern Indiana?—Henry H. Elliott, Indiana.

Answer.—Yes, bottom packing is advantageous except in localities where there is considerable snow during most of the winter. In such cases, the snow protects the bottom of the hive by banking against the sides.

Mice Enter Hives in Winter

Question.—Last winter I lost several colonies of bees, and, when I opened the hives, I found many bees apparently partly eaten. What could have done this?—H. Bussey, New York.

Answer.—This is probably the work of mice. They sometimes enter the hive during winter while the bees are in a compact cluster, and, therefore, can not drive the mice out. Mice can be kept out of the hive by using the entrance-closer having an opening only ⅜ of an inch high.

Giant Bees of India

Question.—Have either the giant bees of India or the small species found there ever been experimented with in this country?—Dr. A. L. Griffith, Tennessee.

Answer.—Neither of these species have been successfully imported into this country. Many attempts have been made to keep these bees in hives as ordinary honeybees are kept, but owing to their migratory habits this has not been successful. Both of these species build their combs out in the open, building only a single comb for the colony. If there is a dearth of nectar the colonies desert their combs and migrate in search of better pasture. For this reason these bees are not adapt-

ed to commercial honey production.

Extracting Honey That Is Partly Granulated

Question.—I have a number of combs in which the honey is granulated. What is the best way to get this out of the combs without damaging them? Could I extract the honey after soaking the combs in warm water?—J. W. Grady, New York.

Answer.—It would be difficult to liquefy such honey so that it could be extracted without a long period of warming. Even then it is doubtful if much of the honey could be thrown out. The usual procedure is to save such combs until spring, then feed the honey to the bees. While some of it is wasted by dropping crystals on the bottom-board, the bees will use most of the honey and they may even recover some of the dropped crystals later.

Young Queen Reared Late in Fall

Question.—I have a colony in which a virgin queen was reared but not mated late in October. According to all teachings she is alone and supreme, the old queen having been killed and also all other virgins, so I understand. Will she mate at this late date if the weather is warm for a few days?—Emil Steding, New York.

Answer.—Virgin queens that emerge late in the season sometimes fail to mate, although there is still a chance if there are any drones in the vicinity and the weather should be favorable. There are cases on record in which virgin queens that emerged late in the fall, turned out to be good layers in the spring, apparently having mated in the spring.

Laws Concerning Bee Trees

Question.—Is there any law concerning the cutting of bee trees? Foulbrood is getting bad around here and I think the runaway bees are carrying it.—Charley Barker, Indiana.

Answer.—In some states, the law relating to the inspection of bees would authorize the state inspector of apiaries to enter the premises and inspect colonies of bees in bee trees. We do not know of any court decision on the right of inspectors to cut bee trees in order to destroy the diseased colony without permission of the owner. It would no doubt first be necessary to establish the fact that the colony in the tree is diseased before any such action could be taken. Various court decisions have fairly well defined the rights of the owner of the land on which bee trees are located. The person who finds the bee tree has no title to the bees as against the owner of the land, and has no right to cut a bee tree on the premises of another without first obtaining permission from the owner. While it is true that colonies of bees in trees may become infected with American foulbrood, the experience of inspectors in cleaning up the disease in large areas would indicate that bee trees are not, as a rule, a serious factor in disease control. By eliminating all disease in apiaries over a period of two or three years, large areas have been kept free from disease.

Taking Bees from Trees

Question.—I have two colonies of bees in the woods in trees. How can I get them out, and when is the best time to do this?—Lowell Hawthorne, New York.

Answer.—If you cut the tree, this can be done this fall and that part containing the bees can be sawed off so that the bees can be moved home. It would be well to leave the bees in the log until spring, then transfer them in the usual way.

Requeening in Late Fall

Question.—How late in the fall can I requeen my bees?—L. V. Slusher, Kentucky.

Answer.—You can requeen any time that you can handle the bees to find the old queen. Queens can be introduced after brood rearing has been suspended for winter, but it is often an unpleasant job to find the old queen so late in the season. The writer has even introduced queens successfully in mid-winter.

Fall Honey as Winter Stores

Question.—Is fall honey as good for winter as clover honey? Some claim that it is not and that it causes dysentery among the bees. We have lots of wild aster this year.—A. V. Riehl, Illinois.

Answer.—As a rule, fall honey is not as good for winter stores as clover honey in the North where bees are confined to their hives for long periods of time during winter. Buckwheat is an exception to this general rule. In localities where the bees have a cleansing flight at least every three or four weeks during the winter, the quality of the stores is not so important, and in the South where the bees fly freely every few days, the quality of winter stores need not be considered at all. In some cases it is advisable to feed each colony about ten pounds of sugar syrup in October after most of the brood has emerged to control the quality of stores the bees consume during the winter. When sugar syrup is thus fed late in the season, it is stored below the honey and will, therefore, be consumed first. If given about ten pounds of sugar syrup, the colony usually does not use any of the honey stores until toward spring when cleansing flights may be had more frequently. In this connection, it should also be noted that strong colonies will winter successfully on inferior stores while weak colonies succumb with dysentery. Also well-protected colonies may winter successfully on inferior stores while poorly-protected colonies die miserably during the winter from dysentery.

Just News

Editors

The Oregon State Beekeepers' Association will hold its annual meeting on November 10 and 11 in the Multnomah Hotel, Portland.

The winter convention of the Wisconsin Beekeepers' Association will be in Hotel Plankington, Milwaukee, on November 23 and 24.

The Washington State Beekeepers' Association will hold its annual meeting at Yakima on Tuesday and Wednesday, November 7 and 8.

The annual meeting of the Illinois State Beekeepers' Association will be held November 15 and 16, at the St. Nicholas Hotel in Springfield.

The annual meeting of the American Honey Producers' League and the American Honey Institute is scheduled for February 19, 20 and 21 in Minneapolis, Minn.

John M. Davis, veteran queen breeder, Spring Hill, Tennessee, died suddenly at his home on October 18. Mr. Davis spent the greater portion of his long and useful life in the work he loved best, rearing fine queen bees. He was 86 years of age.

The 46th annual meeting of the American Association of Economic Entomologists is scheduled at Boston, Mass., December 27-30. The Apicultural Section of this meeting will open Wednesday afternoon, December 27. Hotel headquarters will be at the Hotel Bradford.

The Thirty-second Annual Report of the Illinois State Beekeepers' Association recently published, contains an unusual number of excellent papers on various phases of beekeeping. These reports are in the hands of E. J. McCormick, 6810 South Winchester Avenue, Chicago, Ill., who is secretary of the association.

The California State Beekeepers' Association will hold its annual meeting at Modesto Hotel, Modesto, on December 12, 13 and 14. The meetings will be held in conjunction with meetings of the Agricultural Commissioners and the Farmers and Fruit Growers. Out-of-state speakers are scheduled to appear on the program.

A book on the pollination of red clover in Russia entitled "Red Clover Pollination and Prospects of Clover and Seed Cultivation," by Gubin and Romashoff, Russian investigators, was published recently. This work was mentioned by Dr. Phillips in his article on Russian beekeeping leaders in the April, 1933, issue of this journal. The book contains 332 pages and represents what is probably the most exhaustive study of pollination of any species of plants ever made.

A revised edition of circular 24, "United States Grades, Color Standards and Packing Requirements for Honey," together with a new color chart giving the color standards for grades of comb honey, was recently published by the United States Department of Agriculture. Both the circular and chart are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., for five cents each. The color chart is required only in the grading of comb honey.

One hundred of the three hundred dollar-a-year men wanted by the American Honey Institute, have sent their dollars to the Institute, indicating their desire to keep it going during this trying period. While it was the intention of the finance committee to limit the number to taree hundred, it has been decided to hold the roster open until four hundred loyal beekeepers have joined the Dollar-a-Year Club by sending their dollar to Mrs. Malitta Fischer Jensen, 417 North Few Street, Madison, Wisconsin.

Dr. Charles L. Marlatt retired as chief of the Bureau of Entomology, United State Department of Agriculture, on September 30, having reached his seventieth birthday on September 25. Lee A. Strong, who has been chief of the Bureau of Plant Quarantine, was appointed new chief of the Bureau of Entomology, by Secretary Wallace on October 1. This evidently means that the Bureau of Entomology and the Bureau of Plant Quarantine are to be combined. Thus far, none of these changes indicate any disturbance of the work in bee culture in the Bureau of Entomology.

Following is a list of honey dealers who have agreed to act as receivers of honey donated to the American Honey Institute since the complete list was last published

(Continued on page 701.)

Bees, Men and Things

(You may find it here)

"In the face of a very short honey crop, we find it hard to get the price up to where we think it should be."—R. D. Hiatt, Franklin County, Ohio.

"The June bug grub has ruined all upland clover here, the only clover left being that in low land near streams."—N. E. France, Grant County, Wisconsin.

"We have had a long dry season since January 30. This makes one wonder how the bees stand it as well as they do."—L. L. Andrews, Riverside County, Calif.

"We have had a very good honey crop considering the short duration of the honey flow. We produced about 120 pounds per colony."—Mrs. E. G. Norton, Churchill County, Nevada.

"It is extremely dry in southwest Texas. Bees are very strong and will be short of stores for winter unless rain comes soon. Other sections of the state are more fortunate."—Oscar Saunders, Uvalde County, Texas.

"At the Tulsa State Fair Bee Exhibit were some of the best exhibits I have seen for years. There was much interest in the industry, and some good prizes were offered."—J. W. Rice, Tulsa County, Oklahoma.

"The condition of the honey plants for next season is only about 50 per cent of normal here on account of the damage by drouth. Much of the young sweet clover was killed."—Bruce L. Morehouse, Chippewa County, Minn.

"This is the worst time to sell anything I have seen in my 48 years in the bee business. Let us hope for the best and trust in God. We are all hard hit, but the farmer the worst of all."—Geo. B. Howe, Jefferson County, New York.

"Praise be that as notable an authority as Malitta F. Jensen paid her respects to the tall honey jar in the September issue of Gleanings in Bee Culture. I can't imagine a worse package than the usual tall and slender jar."—Robert S. Benson, Oxford County, Maine.

"I think this is the fiftieth year of my subscription. I am not sure whether I subscribed in 1883 or 1884. I was in Medina that spring, and A. I. Root himself induced me to subscribe. I remember seeing that little man hustling about like a busy bee himself."—Julius Johannsen, Ottawa County, Ohio.

"We are busy people on our fruit farm and do not go into the bee business on a heavy scale, but figure the bees an important asset to our orchard. Meanwhile they pay for their room and board besides furnishing two families with honey."—Mrs. Wm. M. Bos, Kent County, Michigan.

"Depressions are for silly humans,
Not for bees—
They give not a thought to money,
Simply keep on making honey,
As they please.
Isn't it funny?"
—Louise MacMullen, Washington County, New York.

"This year my bees produced 112 gallons of honey from 15 colonies, and I left 10 full-depth frames of honey on each hive for winter supply. Honey is beginning to move fairly well, but the price is low (30 cents per quart) on account of honey being brought in from the outside at 25 cents a quart."—Jos. D. Breman, Orleans County, La.

"I wish there might be short sketches in your journal suggesting that beemen help each other look for American foulbrood, as so many desire this help. We have no inspector in this county and I am sure we will not be able to get one from the commissioners now as every one is taxed to death. There is so much idle time that it will pay big to have inspection done by ourselves making a try at different times and several doing it."—Wm. M. Cross, Seneca County, Ohio.

"I have only seven colonies of bees and do not know much about them, but this year they made the prettiest comb honey I have ever seen. Each section wrapped in cellophane sells readily here. The grocer wanted more than I had. This is a great country of oranges, grape fruit, lemons and limes. In fact, it is nearly solid orchard. The avocado is covered with bees for about ten days. They like guavas and monsteras, and they are wild about the Tallahassee vine. Cocoanut and banana drip honey and I have seen bees licking it up from the sidewalk under a cocoanut tree early in the morning."—Dr. J. B. Tower, Dade County, Florida.

(Continued on page 701.)

A Tentative Honey Producers' Code

(Continued from page 651.)

decide whether we should give it up as premature and impossible, or go ahead now that we were there assembled and appoint a committee to prepare a set of tentative resolutions looking toward a national honey producers' code. After considerable discussion the latter was agreed to.

Mr. Gwin then appointed the following committee representing as far as possible various sections of the country: Chairman, C. L. Corkins, Powell, Wyoming; Secretary, R. H. Kelty, East Lansing, Michigan; E. T. Cary, Syracuse, New York; W. O. Victor, Jr., St. Thomas, North Dakota; S. D. Williams, 5125 82nd Street, Portland, Oregon; R. H. Erickson, Norwalk, Wisconsin; J. F. Moore, Tiffin, Ohio.

The committee, after several hours' hard work, brought in the following resolutions based on the Inter-mountain Code, which had already been drafted:

MOTION NO. 1—That this committee recommend to the general convention that we adopt the principle of a honey marketing agreement under the Agricultural Adjustment Act, for the purpose of stabilizing the market for honey.

MOTION NO. 2—That we prepare a code which will be national in scope covering both wholesale and retail distribution of honey, patterned after the suggestions included in the Inter-Mountain Code, to be amended as necessary to meet requirements.

MOTION NO. 3—That this committee recommend that the marketing agreement include all honey and beeswax.

MOTION NO. 4—That this committee goes on record as favoring minimum prices based on terminal delivery for the wholesale pack.

MOTION NO. 5—That this committee recommends that the National Board of Trustees establish a limited number of standard sized retail packages.

MOTION NO. 6—That this committee recommends that there be established uniform, regional, minimum delivered wholesale prices for the retail pack, in accordance with the grades and standards hereinafter to be established, said prices to be fixed by the Regional Board of Trustees, subject to the veto of the National Board of Trustees.

MOTION NO. 7—That this committee recommends that uniform regional wholesale prices for the retail pack be established by the Regional Boards of Trustees in accordance with the grades and standards hereinafter to be established, based on the principle of a legitimate minimum cost of packing, and that the Regional Boards of Trustees be obligated by the Marketing Agreement to establish a minimum spread between Regional wholesale and retail prices.

MOTION NO. 8—That the United States grades and standards be adopted in this Marketing Agreement.

MOTION NO. 9—That for the purposes of this Marketing Agreement the United States be subdivided into not more than five regions, each region to be represented on the National Board of Trustees by one producer and one packer of honey, and the President of the American Honey Producers' League.

Each one of these resolutions was very thoroughly discussed on the floor of the convention. In some cases some changes were made after which they were adopted with the request that they be given to the bee journals for publication.

At a later session of the committee, the question of restricting the production of honey was brought up and discussed. It was finally agreed that, in view of the shortage of the crop in the East, this would be unwise; that the total production was restricted enough as it was. Finally it was recommended to confine increase to not more than 5 per cent.

Of course, it will be understood, that these resolutions or recommendations of the Chicago meeting have no binding force as yet and will not until 65 per cent of production accepts them and the agreement is approved by the government. The question of how soon this can take place will depend altogether upon how well the beekeepers will receive and adopt them. Some felt that it would be a long while before this could take place. There will necessarily have to be wide publicity given to these resolutions and a formal marketing agreement after it has been completed by this or another committee.

In addition to all this, the feeling was freely voiced that there would have to be a plan of assessment on every honey producer in the form of a small fraction of a mill on the crop sold; that it would require not less than $5000 to finance the getting up of the agreement and a like sum for its administration from year to year. It was admitted that on account of low prices and a short crop, beekeepers might be slow to respond, but it was the opinion voiced by nearly all present that the work of this committee thus far would have a far reaching moral and psychological effect this year upon beekeepers.

All expressions from the field should be sent to the committee above named. This committee wishes to know whether the beekeepers over the country endorse the action so far taken. If so, will they each and all call on their neighbor beekeepers and sell the idea? Unless there is a generous and hearty response the whole proposition will fail.

Honey has been selling all too low this season. It won't be long until all eastern honey will be sold. The western beekeepers will then be in a position to get a fair price for their honey. It is utter folly to sell at last year's prices.

E. R. Root.

Sell and Buy Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

HONEY FOR SALE

We do not guarantee the reliability of honey sellers, although we require strict references from them.

FINE HONEY packed to suit you. Ray C. Wilcox, Odessa, N. Y.

WHITE clover extracted honey. S. W. Markestad, Canton, Minnesota.

NEW crop clover honey in new sixties. D. R. Townsend, Northstar, Mich.

CHOICE Michigan clover honey, new 60's. David Running, Filion, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

AMBER honey in barrels. Sample, 6c. Peter W. Sowinski, Fort Pierce, Florida.

CHOICE clover honey in 60's, case, $7.20. Sample, 10c. Wm. J. Martin, Croswell, Mich.

CLOVER, basswood, buckwheat and mixed extracted and comb. F. W. Lesser, Fayetteville, N. Y.

EXTRACTED clover, light amber and buckwheat at market price. C. J. Baldridge, Kendaia, N. Y.

OHIO'S finest extracted white clover honey. Prices on request. Sample, 15c. Geo. Morrison, Cloverdale, Ohio.

FOR SALE—White clover honey in 60-lb. cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

PENNSYLVANIA'S finest buckwheat, goldenrod or aster honey; comb or extracted. White Pine Bee Farms, Rockton, Pa.

NORTHERN Michigan extracted clover honey, packed in 60's. Prices on request. Sample by mail, 10c. Hessel Tacoma, Falmouth, Mich.

FOR SALE—Finest quality white clover honey at 6c; amber, 5c. Order by case 120 lbs. Samples, 10c each. W. J. Manley, Sandusky, Mich.

COMB HONEY—White, amber and buckwheat. Also white and buckwheat extracted. Any size package. Prices on request. Carlton D. Howard, Ovid, N. Y.

WRITE for prices on our new crop clover extracted and comb honey; also buckwheat and goldenrod extracted and comb honey. H. E. Crowther, Jefferson, Ohio.

RASPBERRY HONEY—In 60-lb. cans, for $6.00 a can. In 10-lb. cans by mail, postpaid up to and including fourth zone, for $2.00 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

A LIMITED quantity of best Michigan clover extracted honey for November delivery at 6c per pound, on track. A ton or two amber for baking or candy making, at 60c per gallon. New cans and cases. E. D. Townsend & Sons, Northstar, Michigan.

FOR SALE—Extracted honey in 60-lb. cans. Henry Hettel, Marine, Illinois.

AMBER and buckwheat honey in new 60-lb. cans. Harry T. Gable, Romulus, N. Y.

FOR SALE—Fine clover honey in 60-lb. cans, 7c per lb. Jos. Hoehn & Sons, Ottoville, Ohio.

EXTRACTED in new 60's, clover, 7c; buckwheat, 5c per lb. Walter A. Wood, Naples, N. Y.

FINEST quality white clover-alsike comb and extracted honey. Edwin Krinke, Bay City, Wis.

FINEST quality white comb and extracted clover honey. Wilbur W. Green, Antwerp, Ohio.

WHITE clover extracted honey, sample 15c in stamps. Kalona Honey Co., Kalona, Iowa.

CARLOAD or less best Northern Michigan white honey. George Jaquays, East Jordan, Mich.

ORANGE, palmetto and mango honey. Sample, 10c. E. F. Hancock, Box 432, Ft. Pierce, Florida.

WATER-WHITE clover extracted; superb quality; also amber. Howard Grimble, Holcomb, N. Y.

BUCKWHEAT extracted in 160-lb. kegs, new 60-lb. cans; also buckwheat comb. E. L. Lane, Trumansburg, N. Y.

NEW crop white clover extracted honey in new 60-lb. cans. State how much you need. Leonard S. Griggs, 711 Avon St., Flint, Mich.

HONEY for sale at my home, 1000 sections white comb; 1000 lbs. white extracted 60's. E. A. Leffingwell, 1010 N. Pine St., Lansing, Michigan.

NEW YORK State honey, light amber clover in new 60's, 7c case lots; ton lots, 6½c; amber comb goldenrod-clover, $2.25 case. H. B. Gable, Romulus, N. Y.

HOWDY'S HONEY—White clover extracted in new sixties, 6½c lb; amber, 5½c. Howard Potter, Ithaca, Michigan, or 72 Perkins Hall, Cambridge, Massachusetts.

NEW CROP SHALLOW FRAME COMB HONEY, also section honey, nice white stock, securely packed, available for shipment now. Colorado Honey Producers' Asso., Denver, Colo.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

HONEY—We sell the best. Combs in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. A. I. Root Co. of Chicago, 224 West Huron St., Chicago, Ill.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

WHITE clover extracted honey, 7c; amber clover, 6½c; buckwheat, 5c, in new 60's. Extra fancy white comb, $3.75; fancy, $3.25; No. 1, $2.75; No. 1, amber or buckwheat, $2.25; carriers of 6 cases. C. B. Howard, Geneva, N. Y.

FOR SALE—Comb honey. White clover, also buckwheat. C. Holm, Genoa, Ill.

MICHIGAN white extracted honey in 60's. M. H. Hunt & Son, Lansing, Mich.

FOR SALE—Amber and buckwheat comb and extracted. H. G. Quirin, Bellevue, Ohio.

WRITE ME for prices and samples of honey. I can please you. Thos. D. Sherfick, Shoals, Ind.

BUCKWHEAT and amber comb honey for sale. Write for prices. Noel J. Loucks, Springboro, Pa.

NEW CROP extracted honey in new 60-lb. cans and case, 6½c per lb. George Reints, Lindenwood, Ill.

HONEY—New crop clover, amber and buckwheat, both comb and extracted. F. J. Smith, Castalia, Ohio.

COMB HONEY—200 cases, fancy and No. 1 clover, fine quality, fair prices. Ross B. Scott, La Grange, Ind.

HARRIS—A limited amount of white and extra light amber extracted. New cans. J. N. Harris, Saint Louis, Michigan.

WHITE CLOVER honey, extracted, comb and chunk. Sample, 1 lb., 15c; no stamps. F. W. Summerfield, Grand Rapids, Ohio.

FOR SALE—Extracted clover and fall flowers; honey in new cans and cases. Sample free. W. S. Earls & Son, New Canton, Ill.

HONEY COLLECTION—From 12 blossoms, valuable to bee men, orange blossom included; postal brings prices. Barter for merchandise. DelMarVa Honey Exchange, Berlin, Maryland.

100% PURE MAPLE SYRUP, MAPLE CREAM, MAPLE SUGAR—Lowest prices ever in many sized containers to suit you. Comb and extract honey, circular free. Let us help you save money now. Tell us just what you want and will quote you special low prices. Griswold Honey Co., Madison, Ohio, U. S. A.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

FANCY WHITE and No. 1 comb honey in 4¼x1⅞ sections. Adolph Moesch, Bonduel, Wis.

WANTED—Honey. White clover, light amber in 60-lb. cans. Roscoe F. Wixson, Dundee, New York.

WANTED—Comb and extracted honey. Mail sample, state quantity and price. Sherfick Farms, Shoals, Ind.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—Clover or amber honey. Any quantity up to carload. Send samples, quote price delivered Chicago. Ernest R. Heath, 3216 Eschol Ave., Zion, Illinois.

EXTRACTED HONEY WANTED—Carloads and less than carloads. Send sample and best price delivered Oconomowoc. C. W. Aeppler Company, Oconomowoc, Wis.

CASH PAID for full carloads or less than carloads, comb and extracted honey. Send representative samples and best price delivered Oconomowoc. C. W. Aeppler, Oconomowoc, Wis.

WANTED—Honey and beeswax. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. California Honey Company, Hamilon & Company, Agent, 108 W. Sixth St., Los Angeles, California.

ASTOR HONEY WANTED—Send sample and price. N. S. Gladish, Pulaski, Tenn.

FOR SALE

SAVE queens. Safin cages now 15c; ten for $1. Allen Latham, Norwichtown, Conn.

ELECTRICAL honeycomb uncapping knife, 10", $10.00; with thermostatic heat control, $12.50. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if avertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

QUEENS mailed anywhere, any time. Winter tested Italian queens, 75c each. D. W. Howell, Shellman, Georgia.

HIGH bred Caucasians for November, untested queens, 50c each; tested, $1.50 each; select tested, $2.50 each. Bolling Bee Co., Bolling, Alabama.

MISCELLANEOUS

GENERAL JOB printing done by A. Matson, 21513 Donaldson, Dearborn, Mich.

TRADE straw beehives for clover extracted honey. G. Korn, Berrien Springs, Mich.

WANTED—To exchange high grade Italian bees or queens for a 303 Savage rifle, lever action. S. Whann, Polk, Pa.

BEST PRICES paid for light honey in exchange for package bees, spring delivery. Prepare now for a larger volume and profit next year. Gillis Graham, Cameron, Texas

BEEKEEPERS—Improve sources of nectar by planting vitex trees, or seed. Two-year-old trees, 40c; one-year-old trees, 25c. New tested seed at $1.00 per ounce. All prepaid. Joe Stallsmith, Galena, Kansas.

ANNUAL report American Honey Producers' League, including 14 papers and complete discussion of 1932 convention for $1.00 membership included. Address V. G. Milum, Vivarium Building, Champaign, Illinois.

FOR SALE OR TRADE—800 Root's 10-frame shallow extracting supers. Painted white. In good condition. Guaranteed free from disease. 250 lbs. thin super foundation. Trade any number for mild white honey in 60-pound cans. Gooch Apiaries, Farmersville, Texas.

HIGH CLASS JOB PRINTING DONE AT REASONABLE PRICES.

THE A. I. ROOT CO., MEDINA, OHIO

TOLD BY THE JAY

(Continued from page 692.)

God is within you," and not in the things you do or do not possess. Were those Puritans away back in 1622, surrounded with poverty, cold and hunger, were they thankful? They were, or they would not have inaugurated Thanksgiving Day.

So we beekeepers should be thankful for the blessings we have. Beekeeping is a pleasant occupation, and working in the pure air is healthful. We can make a living, so let us be thankful and happy and let others worry about the depression.

BEES, MEN, AND THINGS

(Continued from page 697.)

"This has been a very poor season on account of drouth. We had only one light shower in June, one in July, and none in August. I got one-half crop by skilled work while others got nothing. I have kept bees now for 63 years. I am 87 years of age and still able to run a yard of 100 colonies. My first beekeeping was before the invention of the Langstroth hive, comb foundation, or sections for comb honey. I have kept bees in three states. I ran an apiary at Vermillion, S. D., for 32 years. I had classes and taught beekeeping for profit there. My largest surplus comb honey was 450 pounds average on 125 colonies. This was from sweet clover. My brother, now dead, won a $50.00 prize, having produced 803 pounds from one colony, spring count."—E. A. Morgan, Buffalo County, Wisconsin.

JUST NEWS

(Continued from page 696.)

on page 442 of the July issue of this journal: Honey Sales Co., 1806 North Washington Avenue, Minneapolis, Minn.; C. F. Schad, Vermillion, Kansas; Herbert H. Reim, 924 Labaree Street, Watertown, Wisconsin; Albert Peglow, Brillion, Wisconsin; W. W. Lawton, Fort Atkinson, Wisconsin; Robert I. Wilson, Hopewell Junction, N. Y.; M. N. Dillon, Fruit Ridge, Michigan; R. O. Brand, Corning, California; Mrs. Althea P. Marks, Santa Paula, California; Daniel J. Snook, 4519 Acacia Street, La Mesa, California.

An important bulletin of interest to beekeepers was recently published by the Dominion of Canada, Department of Agriculture, as Bulletin 162. The bulletin is entitled "Apple Pollination Studies in the Annapolis Valley, N. S., Canada," by Dr. W. E. Brittain, of Macdonald College, Quebec. It contains 198 pages and many illustrations, most of which are from wonderfully fine photographs. Dr. Brittain covers the subject of cross and self fertilization, including the latest work on chromosome complexes as a basis for practical field studies, field observations on insect visitors, including honeybees, and a study of bee poisoning from arsenicals.

The annual meeting of the Iowa Beekeepers' Association will be held in conjunction with a short course for beekeepers at Ames, November 16, 17 and 18, instead of in December, as announced on this page last month. The association will hold a business session on the morning of the 16th, and the short course program will begin at noon and continue through the 17th. Another business session of the association will be held on the morning of the 18th. Jay Smith of Vincennes, Indiana, is scheduled to speak on three topics at this meeting, "The Home Rearing of Queens," "The Management of Shipped Queens or Commercially Reared Queens," and "The Matter of Race Improvement." Further particulars concerning this meeting and short course can be had by writing to Prof. F. B. Paddock, Ames, Iowa.

MILLS

At Bargain Prices

We have on hand one smooth roll mill, 2½ inches in diameter by 6 inches long, and also one thin super mill 2½ inches in diameter by 6 inches long. Both are hand power. The smooth roll mill will not make foundation, but will simply roll the wax thin enough for the super mill. These are offered as is and subject to prior sale, at $20.00 each, F. O. B. Medina, O.

THE A. I. ROOT COMPANY, MEDINA, OHIO

PRESENT STATUS OF THE BEEKEEPING INDUSTRY

(Continue from page 670.)

flowers with the capacity to acquire more of them. We have honeyhouses and machinery that a greater volume of production will speedily perfect. We have the perfect product and the people to sell it to. We have the nucleus of an informative sales organization, which alone remains the great problem of the beekeeping industry. That organization must be allowed to advance along with the industry if we are to win the interest of the millions who still think that honey is just a medicine.

Junius, South Dakota.

Package Bees for 1934

WRITE FOR PRICES, DESCRIPTION OF STOCK, ETC.

The Crowville Apiaries
Winnsboro, Rt. 1, La.

Carniolans--Caucasians

The queen-rearing season is ended for this year. We appreciate very highly and wish to thank our many customers for their valued orders. We expect to be prepared to serve all old and many new patrons better next season.

Albert G. Hann, Glen Gardner, N. J.

York's Bees & Queens

ARE BRED FOR BUSINESS

Return mail service on queens in small or large quantites.

Untested Italian queens, 75c each; 3 for $2.00; 10 for $6.50, or $50.00 per 100.

Package bees in season, write us.

Lewis Beeware and Dadant's Foundation at Catalog Prices.

York Bee Co., Jesup, Ga.
The Universal Apiaries

We are Cash Buyers of Honey and Beeswax
Submit samples and best prices, freight prepaid Cincinnati
We also furnish cans and cases.
The Fred. W. Muth Co. PEARL & WALNUT CINCINNATI, O.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF GLEANINGS IN BEE CULTURE, PUBLISHED MONTHLY AT MEDINA, OHIO, FOR OCTOBER 1, 1933.

State of Ohio, County of Medina, ss.:

Before me, a Notary Public in and for the state and county aforesaid, personally appeared M. J. Deyell, who, having been duly sworn according to law, deposes and says that he is the Business Manager of Gleanings in Bee Culture, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of— Post office address—

Publisher, The A. I. Root Co., Medina, Ohio.

Editors, Geo. S. Demuth and E. R. Root, Medina, Ohio.

Business Manager, M. J. Deyell, Medina, Ohio.

2. That the owner is (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

The A. I. Root Co., Medina, Ohio; Geo. S. Demuth, Medina, Ohio; John Gunkleman, R. F. D., Medina, Ohio; J. T. Calvert, Medina, Ohio; Maude R. Calvert, Medina, Ohio; H. H. Root, Trustee A. I. Root Estate, Medina, Ohio; E. R. Root, Medina, Ohio; Mabel K. Root, Medina, Ohio; H. H. Root,, Medina, Ohio; B. I. Bostwick, Seville, Ohio; W. W. Bradway, Medina, Ohio; Alan I. Root, Medina, Ohio; Trustees Profit Sharing Fund, Medina, Ohio.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state). None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustees or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

M. J. DEYELL, Business Manager.

Sworn to and subscribed before me this 26th day of September, 1933.

HAROLD C. WEST.

(My commission expires Mar. 27, 1934.)

Remember

National Honey Week

Nov. 13 to 18

• • • • • •

The Institute hopes to make

HONEY WEEK THIS YEAR

bigger and better than last year. Listen, Honey Week a year ago was the means of securing

**1000 Write-ups in Newspapers and Magazines--
All Featuring Honey**

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It also inspired and furnished materials for

7 Radio Broadcasts on Honey, Reaching Millions of People

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As a result over

1000 Doctors Have Asked for Information on Honey for Their Patients

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Institute needs your financial support. A large number have joined our dollar-a-year club. Join at once.

"**DON'T COMPLAIN ABOUT PRICE OF HONEY** until you have sent in to the Institute $1.00 per ton for your honey."—Big Michigan Beekeeper.

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NEW BEAUTIFUL COLORED FOLDER
"HONEY HELPINGS"
——SIX PAGES——
PRICES TO MEMBERS
100, 60c; 500, $2.30; 1000, $4.15.
Non-members, 500, $2.75; 1000, $4.95.

Send for information on
How to Develop Honey Week
in Your Locality.

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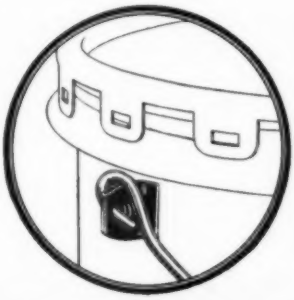
417 N. Few Street, Madison, Wisconsin

ROUND STEEL HONEY DRUMS

FIVE-GALLON SIZE

These steel drums are made of No. 24 heavy guage metal and are so constructed that the entire lid can be removed. The 16 lugs are straightened out to remove the lid and they can be pounded down to reseal. They can be resealed once or twice. The lids are also furnished with a Upressit cap and a pelican spout.



The drums are painted gray and lined with a special sanitary lacquer which has been approved for honey.

Prices, 60c each; 10 for $5.50. F. O. B. Medina, Ohio. 100 shipped direct from factory, $45.00. All prices are subject to immediate acceptance.

The A. I. Root Co., Medina, O.

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BRIGHT ITALIANS

Health certificates furnished. Service and quality guaranteed. Write for prices.

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